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MILITARY

COMMUNIST, NATIONALIST NAVAL STRENGTH ASSESSED

Hong Kong MING PAO in Chinese Vol 12, Nos 2-4, Feb, Mar, Apr 77

[Article by Ti Tsung-heng [3695 4912 2897]: "Who Will Control the Taiwan Straits in the Future?"]

[Feb 77, pp 20-27]

[Text] Part I A Review of the Chinese Nationalist and Communist Naval Strength In Case of War Over the Taiwan Straits

For the past two decades, the Taiwan Straits which is 220 nautical miles long and averages 100 nautical miles in width, has separated China into two completely different worlds. The Nationalist withdrawal from Tachen Islands, the Gun Battle over Chinmen (Quemoy) and Matsu Islands, and a dozen or so other major air and sea battles during these two decades have all left their decisive marks on the continuing struggle between the Nationalists and the Communists. Penghu, Matsu, Tungyin, Wuchiu, Chinmen and Liaofo Bay have imprinted their names in the pages of modern Chinese history as familiar battlegrounds. The names of these islands in the Taiwan Straits might become household words if hostilities between the Nationalists and the Communists should flare up again in the future.

So far, command of the sea over the Taiwan Straits has rested in the hands of the Chinese Nationalists. However, the last group of American military advisers left Chinmen and Matsu on 15 June 1976. Their evacuation marked the near end of the American presence in Taiwan. Now with the Americans out of the mutual defense picture, can the Nationalists maintain its firm control over the Taiwan Straits like before? This is a question which can not be answered with any certainty even by the top military brass, be they Nationalists or Communists. The departure of the Yankees left the Nationalists out on a limb. On the other hand, it also created a delicate balance over the Taiwan Straits.

As far as Taiwan, an island that is extremely poor in natural resources and overly dependent on foreign trade for its economic well-being, is concerned, command of the sea over the Taiwan Straits is vital to its survival. As

for the Chinese Communists, who have insisted that "Taiwan must be liberated," the seizure of command of the sea is a pre-requisite to such liberation, regardless of whether it is to be achieved through "peaceful means" or by force. Therefore, both the Chinese Nationalists and the Communists can be expected to exert their utmost to seize command of the sea in the foreseeable future in order to achieve their strategic objectives. Such a tinderbox situation will make the rekindling of battles in the Taiwan Straits inevitable.

Whoever Controls the Taiwan Straits Will Control Taiwan's Fate

Historical Background

The navy is instrumental to the command of the sea and the protection of territorial waters. Both the Chinese Nationalists and the Communists have done their best in the past in developing their naval forces. They are expected to continue to do so at present and in the future. To help us predict with more accuracy what will happen in the future, the writer considers it necessary to recount major naval conflicts between the Nationalists and the Communists in the past 30 years and to chronicle the growth or losses of their respective navies.

Formative Years--The Chinese Navy grew up almost overnight after the V-J day. From 1945 to 1948, the Nationalists received 271 ships (the preponderance of them are patrol boats and amphibious boats) from the Americans, 33 patrol boats from the Japanese, and 15 battleships from the British and Canadians. At the time, the Nationalist Navy experienced grave difficulties in training, equipment maintenance and recruitment. At the same time, the civil war raged on, leaving the Nationalist Navy no breathing spell to beef up its capabilities. The role that the navy played during those years was one of "giving artillery support to Nationalist troops on the shore" and "assisting in the evacuation of Nationalist troops." Thus the Nationalist naval forces retreated from Manchuria to northern China, then to central China, then to Choushan Islands, then to Hainan Island, and finally to Taiwan. In the course of such a hasty retreat, the Nationalist navy (with the help of military air transport units and the merchant fleet of the China Merchants Steam Navigation Company) managed to evacuate 600,000 troops and 2 million civilians to Taiwan. In the early 1950's, the Nationalists lost two-thirds of their naval ships to either defection or disrepair. Morale was low, supplies were short, ships were in disrepair, and the tide of the civil war was entirely against the Nationalists. It can be said that at this junction in history the Nationalist navy was in the worst shape ever.

The Chinese Communists also founded their navy right after the V-J day when the Soviets handed over to them 30 river gunboats captured from the Japanese. The Communist navy, however, did not grow much in strength until 1949. In that year, the Communists set up two navy academies, one in Antung city and the other in Nanking city, to train lower-level officers

to man the 160 ships of various types brought over by Nationalist defectors and the 50 Russian ships given to them in Russian military aid. The next year, the General Headquarters of the PLA Navy was formally inaugurated in Peking. A large number of officers plucked from the Third Field Army commanded by Chen I were sent to North Korean naval bases for amphibious training under Russian advisors. At the same time, 300,000 men of the Third Field Army who had undergone amphibious training, 15,000 paratroopers, and 6,000 motorized junks and sampans were amassed along the Fukien sea coast, ready to cross the Taiwan Straits in June 1950 to "give Taiwan a bloodbath."¹

In June 1950, the Korean War broke out. Subsequently the U.S. Seventh Fleet was stationed in the Taiwan Straits. This turn of events thwarted the Communists' attempt to take Taiwan by force and enabled the Nationalists to firmly establish themselves on Taiwan. In May 1951, 700 American advisors formed the Military Assistance Advisory Group (MAAG) in Taiwan. They provided the Nationalist navy with ammunition, fuel and supplies and helped it to set up comprehensive personnel, intelligence, operation, training and logistical systems. Thus the Nationalist navy embarked on its path to becoming a "regular and modernized force." From 1950 to 1954, the Nationalist navy, with the help of the Americans, performed the following duties:

1. Mining Pohai Sea, mouth of the Yangtze River, and eastern and southern Chinese coastal waters so as to close off the Chinese Communists' maritime outlets;
2. Searching all foreign merchant ships sailing toward mainland China, seizing three Russian ships carrying jet fuel and one Polish oil tanker;
3. Supplying offshore islands such as Tachen, Nanchishan, Matsu, Tangyin, Wuchiu, Chinmen, Penghu, Tungsha and Paracel Islands, and patrolling the Taiwan Straits;
4. Supporting assaults of the Nationalist troops on the sea.

The mining operation was called off as the Korean War ended. The searching of foreign ships was suspended as international criticism rose. The patrolling and supplying missions were kept up, resulting in frequent skirmishes with the Communist navy and air force. In those early years, the superior performance of the American-made naval ships gave the Nationalists a definite edge over the Communists' infant navy and air force and made them winners in most sea battles with the Communists. However, the Nationalist air force's propeller fighter planes were no match for the Communist jet fighters. Therefore, whenever the Nationalist fighters got in trouble with MiG jets, they would dive to within the firing range of the Nationalist naval ships for protection. In those years, the MiGs also made frequent bombing and strafing runs over the Nationalist vessels but inflicted little damage. On the contrary, they were often shot down in flame by the latter's accurate anti-aircraft artillery.

With naval support, the Nationalist version of "green berets" made frequent assaults and penetrations along the Chekiang, Fukien and Kwangtung coast. Two major battles stood out in those days:

1. Assault on Nanji Island (facing Wuchiu Island): On 10 October 1952, two amphibious detachments formed from two battalions of Nationalist naval and special forces attempted a surprise attack on Nanji Island. Foul weather delayed the landing again and again and took away the surprise element. As a result, the assault turned into a fight to the bitter end. On the morning of 11 October, two Nationalist amphibious ships landed more reinforcements amid enemy fire and despite blockage of Communist torpedo boats. At sundown, the Nationalist invaders declared their occupation of the island. The Nationalist navy also repelled several counterattacks from Communist speedboats. Three days later, the Nationalist assault troops withdrew from the island under naval and air cover. In that battle, both sides lost over 1,000 men. The Communists also lost several torpedo boats. The Nationalists lost no ships and suffered little damages.

2. Assault on Tungshan Island (at the Fukien-Kwangtung border): The Nationalists were not entirely happy with the assault on Nanji Island. On 16 July 1953, they mounted another assault of similar troop strength. In addition, they threw in paratroopers. Unfortunately, they were in for a greater disappointment. First of all, bad weather forced most paratroopers (about the size of a battalion) to turn back (three of the airplanes reached the vicinity of Hong Kong without finding a place to land). Heavy sniping fire from the Communist gunboats and inaccurate tide movement information caused a delay in the beaching of Nationalist marines. As a result, the few advance paratroopers who had been dropped on the island and had taken up position waiting for reinforcements were annihilated. A bloody battle then took place. In 3 days, the county seat of Tungshan County changed hands several times in the seesaw between the Nationalists and the Communists. On the afternoon of 18 July, the Nationalists, after suffering heavy casualties, beat a retreat. During this engagement, the Nationalist navy fared well--itself suffered no casualties but sank three Communist gunboats and five motorized junks.

The Battle of Tachen Islands--The battle over Tachen Islands afforded the first opportunity for a true match between the Nationalist and Communist navies. The outcome was that the Nationalists did not do as well as they had expected while the Communists showed that their navy was now something to be reckoned with.

Tachen Islands lie 15 nautical miles off the coast from Wen Mountains in Chekiang Province and are within firing range of the Chinese Communist coastal guns. They are also not far from a Communist air base of fighter planes yet are more than 200 nautical miles away from Taiwan. Their geographical location made it obvious that the Nationalists would have a hard time defending them. Nevertheless, the Nationalists still had one infantry division (the 46th Division) stationed on five major islands. The arduous task of supply these islands and guarding the waters around them fell on the Nationalist navy.

On 18 September 1954, a Nationalist propeller plane shot down a Communist MiG fighter in a dog fight over Tachen Islands, thus raising the curtain on the Battle of Tachen Islands². First, the Communists started shelling Chinmen and Matsu to divert the Nationalists' attention, disguising their real intention of wanting to take the Tachen Islands. In the weeks that followed, the Nationalist and Communist navies had some encounters in the waters near Chinmen and Matsu. The Nationalists still had the upper hand, sinking six Communist speedboats, one oil tanker, and 30 armed motor junks. Then came the incident of the Taiping destroyer in November. This was when the Communist navy dealt the Nationalist navy a resounding blow for the first time. In the early morning of 14 November, the destroyer "Taiping" was patrolling the waters near Tachen Islands by itself. The ship's radar screen showed a cluster of mainland Chinese fishing boats working in the area. Then, all of a sudden, out of the cluster came several Communist torpedo speedboats heading straight toward the destroyer, shooting torpedoes. Two torpedoes hit the "Taiping." Even though she managed to get away, she sank not far from the Tachen Islands 17 hours after she was hit. In firepower and tonnage, she ranked seventh in the Nationalist navy's fleet. Her sinking was naturally a great loss for the Nationalists. While the civilians in Taiwan took part in the popular movement of "buying a new ship, avenging the lost one," the Nationalist military brass reviewed their anti-speedboat tactics and reassessed Communist naval capabilities. One week after the incident of the Taiping destroyer, the Nationalists and Americans signed in Washington the "Sino-American Mutual Defense Treaty." This may be regarded as a coincidence.

On 10 January 1955, more than a hundred Chinese Communist bombers and fighters bombed and strafed Tachen Islands. Two bombers were shot down by anti-aircraft guns of Nationalist naval vessels. That night, Nationalist and Communist naval ships fought tooth and nail in a fierce meeting engagement, in which the Nationalists lost a patrol boat and the Communists lost two torpedo speedboats. As the week wore on, the Communists assembled two Marine divisions, 154 ships and motor junks of various types, and 230 fighter planes along the coast facing Tachen Islands, girding themselves for an attack on Tachen Islands. The "Engagement of Ichiangshan Island" was to be the opening round.

In the early morning of 18 January, a Communist flotilla composed of two destroyers and four patrol boats set up a blockade to isolate Ichiangshan from other islands in the Tachen group. It also kept Nationalist reinforcements from both the air and the sea miles away by a blanket of artillery fire. At noon, 60 Communist IL-28 bombers, with an escort of MiG fighters, made saturation bombing of Ichiangshan Island which is only 1.3 square kilometers in area. At 2:00 in the afternoon, a regiment of Communist Marines boarded some 100 armed motor junks at Tungmen Island and sailed the 5 nautical miles to Ichiangshan. Under cover of coastal and naval artillery fire and fighter planes, they landed on the island. The 700 Nationalist guerrillas stationed there were obviously no match for the Communist invaders. After 3 hours of heavy fighting, the island fell into the Communist hands, even though the Nationalist defenders were to continue

their organized resistance for 3 more days. At midnight of 20 January, the Nationalists sent several battleships to the island to attempt an evacuation of survivors but could not get past the sniping fire of Communist patrol boats. As the night wore on, the Nationalists sank two Communist patrol boats but also lost a battleship themselves. The Battle of Tachen Islands was thus reaching its height.

As soon as the Chinese Communists took Ichiangshan, they turned their eyes to Shangtachen and Hsiatachen Islands defended by Nationalist main forces. After 20 January, the nearby waters became the bloody battleground for the two opposing navies. The Nationalists succeeded in sinking four Communist ships and 17 motor junks and could not prevent the Communists from putting together an amphibious assault force. The newly built runway for fighter planes on Shangtachen Island lay useless under constant bombardment from Communist coastal battery only 6 nautical miles away. Lacking local air superiority and unable to establish total control of the sea, the Nationalists faced grave danger on and around Tachen Islands. Fortunately, the "Sino-American Mutual Defense Treaty" came into effect on 10 February. The U.S. Seventh Fleet stepped in to contain the worsening situation. A Sino-American joint task force composed of 159 vessels of various types (including 27 National naval ships) managed to evacuate 25,000 soldiers and civilians from Tachen Islands to Taiwan in 5 days.

Once the Tachen Islands were lost to the Communists, the Nanchishan Islands 75 nautical miles to the south became indefensible. On 18 February, the Nationalists took on the evacuation mission all by themselves. The evacuation was to be marred by sea battles around Taishan Islands. Nanchishan Islands, totaling 15 square kilometers in area, were surrounded by Taishan Islands which were in Communist hands. Naturally the 8-day evacuation had to be carried out amid hourly bitter engagements between the Nationalist and Communist navies. On 25 February, the Nationalists completed the evacuation of 5,000 troops and 2,000 civilians. The Nationalists came out of the sea battles with the sinking of one Communist patrol boat, four gunboats, and five armed motor junks to their credit. With the conclusion of the Battles of Tachen Islands, the Nationalists gave up their last stronghold off Chekiang province's shores.

When the Chinese Communist navy was taking shape in the early 1950's, its fleet consisted of American-made, Russian-made, Japanese-made, British-made, Canadian-made and German-made ships. Such wide variety created problems in maintenance and getting supplies. As Russian aid started pouring in, the Chinese Communist navy achieved standardization gradually. First, the Soviets gave the Chinese Communists large numbers of naval ships to make up for losses suffered during various sea engagements with the Nationalists. In 1955 alone, for instance, the Russian "buddies," having bled Manchuria white and finally having decided to remove their Far Eastern fleets from Lushun (Port Arthur), turned over to the Chinese Communists all the naval facilities in Lushun and 44 ships of various types (including two escort destroyers and five submarines). Second, the Soviets began to

provide submarine training facilities to help Chinese Communists develop submarine forces. Third, the Soviets made all-out efforts to help the Communists with mine sweeping, thus quickly reopening mainland Chinese ports for international traffic. Lastly and most importantly, the Soviets helped the Communists set up five naval shipyards in Talien, Shanghai and Huangpu (Whampao) to build naval ships of Russian designs.

During the same period, the Nationalist navy also received some new ships through American aid, offsetting the Communist advantage achieved through Russian aid. The balance of naval forces between the Nationalists and the Communists is shown in Table II.

The loss of Tachen Islands was actually a blessing for the Nationalists. It was like the discard of a dead weight. Now the Nationalists could concentrate on defending Taiwan, Penghu (Pescadores), Chinmen and Matsu. The 72nd Patrol Detachment of the U.S. Seventh Fleet cruised the Taiwan Strait all year round. The Nationalist air force, now an all-jet force upgraded by American aid, provided air cover for naval patrols. As a result, the Nationalist navy was patrolling a long stretch of waters extending along Kwangtung, Fukien and Chekiang provinces' sea coasts. From 1955 to 1957, the Nationalist and Communist navies ran into each other time and again and battled each other fiercely, with the Nationalist navy coming out of each engagement always a victor. The Nationalist navy was to reach its heyday during the Gun Battle Over Chinmen and Matsu, to win worldwide recognition.

Though the Communists were thwarted in 1950 in their attempt to cross Taiwan Strait and to give "Taiwan a bloodbath" at the height of their sweeping victory on the mainland, they refused to abandon their established policy of "liberating Taiwan by force of arms." In 1958, both the international and the domestic situation seemed to favor a second try. Preparations got underway to assemble along the Fukien coast 13 infantry divisions, three artillery divisions, two anti-artillery divisions, 298 fighter planes of various types, and 262 naval ships and armed motor junks of various kinds. The plan was to take Chinmen and Matsu by storm first, and then to liberate Penghu and Taiwan the following spring³. In this coming battle, the Communists were to throw in all their naval vessels. A little prior to the battle, the Communist navy had several encounters with the Nationalists along the Fukien coast and lost 18 ships of various types and 45 motor junks while trying to get away from the Nationalist hot pursuits.

The Gun Battle Over Chinmen and Matsu--At 6:00 in the afternoon of 23 August, the 342 Chinese Communist guns emplaced along the coast began carpet-bombing of nearby Chinmen Island, thus raising the curtain on the "23 August Gun Battle" which was to shock the world. During the first 2 hours, these guns hurled a total of 57,500 rounds of shells across the waters onto Chinmen. The shelling failed to make enough of a dent on the steely fortifications on the island (defended by more than 100,000 Nationalist troops) to encourage an attempt to land assault troops on the island. Therefore,

the next move which the Communists decided on was to try to choke Chinmen off from its maritime and aerial sources of reinforcements and supplies, hoping to attempt the landing as soon as the island defenders ran out of their ammunition and provisions. The next day, the Communist navy and air force entered the Liaolo Bay for bombing and strafing runs, but were repelled by island defenders.

The dawn of 25 August saw a Nationalist convoy of five landing craft and some merchant ships sailing into Liaolo Bay to drop off provisions, ammunition and supplies on the beach. They immediately attracted scores of Communist torpedo speedboats, covered by coastal gun fire, into the area, launching one torpedo after another in their direction. In the melee that followed, Communist torpedoes hit one Nationalist landing craft loaded with tanks and an unarmed merchant ship of the China Merchants Steam Navigation Company. The impact set off the ammunition carried in the two ships into a series of loud explosions. The two ships sank quickly (see Table 1). The flames from the ships lit up the whole Liaolo Bay. The toll for the Communists was two torpedo speedboats sunk when they tried to get away from the scene of the battle.

After 25 August, the Nationalist navy made several attempts to enter Liaolo Bay under cover of night with supplies, but was stopped by Communist naval ships and coastal guns. On 2 September, a Nationalist supply convoy consisting of two patrol boats, one mine sweeper, and three landing craft put out to sea at Makung port of Penghu and sailed into Liaolo Bay with the objective of dropping supplies on the beach of the besieged Chinmen at midnight. Meanwhile, more than 20 Communist torpedo speedboats and gunboats were waiting at Amoy port to intercept this convoy. At 11:00 that night, the two adversaries met in Liaolo Bay 6 nautical miles southeast of Chinmen. The ensuing 4-hour battle would go down in history as the "2 September Sea Battle in Liaolo Bay." During the engagement, the Communist speedboats were helpless in trying to stop the Nationalist landing craft from unloading their cargo and were powerless against the screening fire of the Nationalist patrol boats. The battle ended with a score of 12 to nothing in favor of the Nationalists. The Nationalists won hands down! The highlight of the combat was that the Nationalist patrol boat named "Tochiang" (PC-104) charged single-handedly into the Communist formation of torpedo speedboats and sank a total of nine one after another. As the combat progressed, the "2 September Sea Battle in Liaolo Bay" brought more than 30 ships from each adversary navy into the fray. It was a sea battle of the largest scale in years between the Nationalists and the Communists. The toll was also the highest. It was to change the course of the Gun Battle over Chinmen and Matsu. The Chinese Communists, having suffered irreparable losses in this conflict, were no longer able to block the Nationalist supply routes.

To supply provisions and ammunition to the 150,000 military and civilian population on Chinmen Island (consumption at 700 tons per day), the Nationalists sent an amphibious convoy with mixed Chinese and American escort ships every day after 3 September into Liaolo Bay to drop supplies. The

Nationalist air force would cover the Nationalist convoys from the air. On 18 September, the Nationalists formed a transport flotilla out of scores of ships of various types to ship scores of 155-centimeter and 203-centimeter cannons (with a firing range of 15 miles) to Chinmen. As the flotilla entered Liaolo Bay, hordes of Communist torpedo speedboats, relying on a "tactic of numerical superiority," came out in a swarm to block the way, but to no avail. During the sea battle in broad daylight, the Communists suffered casualties of three boats sunk and four damaged while the Nationalists were unscathed. Six days later, the same Nationalist flotilla returned with full loads, again heading into a fight. This time the fight took place in the air, not at sea. As 32 Nationalist Sabre jet fighters escorted the flotilla into Liaolo Bay, more than 100 Communist MiG fighters closed in on them from the south, the north and the west. A 4-hour bitter aerial battle took place. The Nationalist and Communist fighters chased one another in fierce dog fights in an air space 100 miles long and 50 miles wide above the Fukien coast. The final score: 10 to nothing. The Nationalist air force won a smashing victory!

On 15 October, the Communists, after expending 475,000 rounds of artillery ammunition on Chinmen, realized the futility of their effort in spite of their immense losses. They decided to call it quits. Thereupon the Gun Battle Over Chinmen and Matsu petered out with the Communist declaration of "firing on odd days and ceasefire on even days." According to Nationalist statistics, the Nationalists had two ships sunk and three damaged in the 18 sea battles in the course of the Gun Battle over Chinmen and Matsu. The Communist casualties, on the other hand, ran to 22 ships and 86 motor junks destroyed. The score for the 10 major air battles was 32 to 3 in favor of the Nationalists. For this period, victory clearly belonged to the Nationalists.

After the incident of the Taiping destroyer, the Nationalists attached great importance to developing and improving on their anti-speedboat tactics. Their work proved its value during the Gun Battle over Chinmen and Matsu. As for the Communists, they began to see the great disadvantage of pitting their "numerical superiority" against the accuracy of the automated battery of the Nationalist naval ships. Therefore, for both the Nationalists and the Communists, the Gun Battle over Chinmen and Matsu marked an important milestone in their respective naval development. The Nationalist navy was to continue to improve on its firepower and tactical maneuvers while the Communist navy was to turn its attention to building larger naval ships and submarine units and to phase out its obsolete torpedo-boat tactics.

With massive Russian aid, the Chinese Communists began copying various types of Russian ships in 1956. Their large-scale shipbuilding program was suspended for a while in 1960 when Russian aid stopped. Then they picked up again. Relying on rich natural resources and their teamwork, they overcame one obstacle after another, embarked on research and development on their own, made innovations, and built a navy from their own resources. In the early 1960's, the Chinese Communists not only continued

to churn out large numbers of speedboats (mainly Shanghai class superspeed gunboats and Shantou class torpedo speedboats) which "offer small targets, possess strong firepower, and move at high speed," but also designed large ships. In those years, the Chiangnan Shipyard in Shanghai built a 1,800-ton Chiangnan class escort destroyer; Wusung Shipyard in Shanghai built a 500-ton Wusung class minesweeper; and Hutung Shipyard in Shanghai built a 300-ton submarine chaser, all following Russian blueprints. These large ships were new blood for the Chinese Communist navy. At the same time, Talien Shipyard put together 21 W-type submarines from equipment left behind by Russians. Huangpu Shipyard also got busy building 500-ton Hainan class patrol boats to be used against the Nationalist navy.

In the years following the "23 August Gun Battle," the Nationalist navy had the command of the sea firmly in its hands. With American aid, they modernized their ships' gunnery. They also set up naval repair yards at Keelung, Makung, Tsoyin and Kaohsiung to increase their maintenance capabilities. From 1959 to 1964, the Nationalist and Communist navies had a number of skirmishes in the Taiwan Straits. The Nationalists still had the upper hand (see Table 4). However, the three major sea engagements in 1965 were to cause the morale of the Nationalist navy to sink to its lowest ebb. Perhaps the old Chinese proverb "armies drunk with victory will eventually lose; armies in humiliation will eventually win" is still true for today's naval warfare.⁴

The Battles in Minhai Sea--On 1 May 1965, a patrol boat named "Tungchiang" of the Nationalist navy went on night patrol duties around Tungyin and Matsu Islands. Due to the negligence of the officers on night watch, the ship blundered into Shansha Bay--a Chinese Communist naval port. A still worse blunder was that when the radar operator saw on his radar screen a large unidentified object charging toward his ship he did not notify the officers on night watch. The ship did not sound its alert siren until the first enemy shell fell on its pilot house. For the Nationalists, this sea battle was joined in error and concluded in confusion. Because all the men on the ship's deck were killed, there was no telling how many enemy ships and what types took part in the combat. When "Tungchiang" was hit scores of times by enemy barrage, she managed to get away and headed toward Penghu. She finally ran out of steam and had to be towed to Tsoyin Naval Base by other ships. Afterwards the Nationalists released the news that "Tungchiang" sank four Shanghai class enemy gunboats and two other gunboats during the engagement. It was an exaggeration which people find hard to believe.

In the early morning of 6 August, a Nationalist patrol boat named "Changchiang," under the convoy of "Chienmen," the flagship of the Nationalist No 2 Cruising Fleet, sailed toward the Fukien coast with the purpose of landing special forces for penetration into the Liangshan area in Fukien Province. As the mission was very important, the commander of the No 2 Cruising Fleet, who had the rank of rear admiral, was riding on the flagship to supervise the operation. The Nationalists made one big military blunder--failing to keep the mission a secret. More than 10 Communist

destroyers, gunboats and torpedo speedboats were waiting in Shaoan Bay to knock them out. At dawn, "Changchiang" and "Chienmen" sailed into Shaoan Bay, 3,000 yards apart from each other. As they approached land, their radar lost its effectiveness due to reflections from surrounding land features. At that very moment, flashes of white light exploded on the deck of "Changchiang." She was being hit by a barrage of fire from Communist ships' fast and accurate gunnery and the next moment she was sunk. "Chienmen" also found herself under a rain of artillery fire and immediately tried to get away. At the same time she also radioed for help from Nationalist air force fighters. Badly wounded, "Chienmen" also went down 10 minutes later near Tungshan Island before air support could arrive at the scene, carrying with her a Nationalist rear admiral to the bottom of the sea. Shortly after the two ships sank, a dozen or so destroyers of the Nationalist navy and the Taiwan Strait patrol detachment of the U.S. Seventh Fleet steamed into the area to search for survivors. In 7 days, they could only pick up five survivors--all deep-water demolition experts of the navy and good swimmers. In this battle, the Communists handed a resounding defeat to the Nationalists.

Late on the night of 13 November, a Nationalist patrol boat named "Yungtai" (see Table 5) and a minesweeper named "Yungchang" were on guard in the waters southwest to Wuchiu Island, covering some Nationalist amphibious boats which were unloading supplies to the defenders on Wuchiu. As soon as midnight struck, three Communist escort destroyers of the "Chiangnan" class and five gunboats of the "Shanghai" class swooped out of Chuanchou port toward Wuchiu for a massacre. The Nationalist "Yungtai" and "Yungchang" bore the brunt of the initial encounter. A bloody battle took place. As the two Nationalist guard boats were outgunned, outmaneuvered and outnumbered, "Yungchang" soon lapsed into radio silence, its fate unknown. "Yungtai" carried on a desperate fight with the Communists, hoping to buy time for the beached Nationalist landing craft to get away and somehow to attempt a rescue of her sister ship "Yungchang." The battle raged on for the better part of an hour. "Yungtai," after sinking four Communist gunboats and herself being covered with holes from Communist artillery fire, managed to pull out of the fight under cover of night-flying Nationalist fighters. Fifteen crew members survived the ill-fated "Yungchang." They later confirmed that their ship was sunk by Communist escort destroyers at the very outset of the battle. Even "Yungtai" had to be scrapped later because of excessive damage.

The battles in the Minhai Sea caused nearly equal casualties for the two adversary navies. Yet for the Communists, who had endured defeat after defeat for more than 10 years up to that point in history, these battles marked the beginning of an era in which the Communists could fight the Nationalists as tactical equals. These three major sea engagements brought home to the Communists the message that it would be futile to use the speedboats and gunboats against the better--equipped Nationalist ships with superior firepower and that the only way to offset the Nationalist advantage was to use large ships and speedboats at the same time.

Table 1. Losses of Nationalist Naval Ships Since 1950

<u>Battle</u>	<u>Date</u>	<u>Name and Serial No</u>	<u>Type of ship</u>	<u>Tonnage</u>	<u>Place and mission</u>	<u>Cause of sinking</u>
Tachen	11/14/54	Taiping DE-22	Escort destroyer	1,430	Tachen, patrol	Torpedo
	1/10/55	Linchiang PC-103	Patrol boat	450	Tachen, combat	Torpedo
	1/20/55	Yinchiang PC-101	Patrol boat	450	Ichiangshan, combat	Torpedo, scrapped
	2/7/55	Chungchuan LST-202	Tank landing craft	4,080	Tachen, supply	Air raid
Chinmen and Matsu	8/25/58	Chungsheng LST-208	Tank landing craft	4,080	Liaolo Bay, supply	Torpedo
	9/2/58	Tochiang PC-104	Patrol boat	450	Liaolo Bay, combat	Shelled, repaired
	9/8/58	Meilo LSM-242	Medium landing craft	1,095	Chinmen, supply	Shelled
Minhai	5/1/65	Tungchiang PC-119	Patrol boat	450	Shangsha Bay, combat	Torpedo, repaired
	8/6/65	Chang-chiang	Patrol boat	450	Shaoan Bay, combat	Shelled
	8/6/65	Chienmen PCE-65	Patrol boat	1,250	Tungshan Island, combat	Shelled
	11/14/65	Yungchang MSF-51	Minesweeper	945	Wuchiu, combat	Shelled
	11/14/65	Yungtai PCE-41	Patrol boat	903	Wuchiu, combat	Shelled, scrapped

On the Nationalist side, the sinking of three ships and the wounding of two caused the commanders-in-general of the Nationalist Navy and Air Force to lose their jobs and all the Nationalist naval ships to display the slogan: "Let us never forget the lesson of the three sea battles." The use of large ships of over 1,000 tons in weight by the Communists in the three sea engagements convinced the Nationalists that their navy of medium-sized patrol boats and minesweepers was vulnerable. This may be the reason why the Americans began granting large escort destroyers to the Nationalists to replace their obsolete patrol boats after the Minhai battles.

At the end of 1965, Nationalist troops spotted at night a Communist W-type submarine near Hsinchu coast of Taiwan and quickly reported their discovery to the navy. In no time more than 10 destroyers and escort destroyers equipped with anti-submarine weapons sailed out from both Makung and Keelung ports toward the scene of sighting. Thus began the first anti-submarine battle in the Taiwan Strait. The Communist submarine became the target of more than 100 depth charges. Though badly wounded, the submarine still managed to sneak back to Chekiang coast to safety. This was quite a blow to the Nationalist navy equipped with such anti-submarine weapons as sonar and depth charges. This embarrassing battle brought to an end the disastrous year of 1965 for the Nationalists.

As the Communists never announce their naval losses to the world and the Nationalists sometimes tend to exaggerate battle results,⁵ it is very difficult to correctly tabulate the Communist losses for each sea battle. It is generally assumed that in the 100 or so sea battles, both large and small, the Communists lost 50 to 70 ships of various types (more than a half were torpedo speedboats and gunboats) and 100 to 150 motor junks to artillery fire of Nationalist ships. The Nationalist losses⁶ can be seen from Table 1: Six ships were sunk in sea combat, two others wounded and then scrapped; two others wounded but later returned to service after repair; and two others destroyed by ground and air fire. If the losses of the Communists during sea battles (combat between adversary ships) are compared with those of the Nationalists, the score on ships sunk or destroyed by the enemy should be 60 to 8 in favor of the Nationalists. Obviously the Communists were no match for the Nationalists. However, it does not mean that the score will repeat itself in future battles. In the recent decade, the quality of naval troops and naval ships of both the Communists and the Nationalists has greatly improved. It will be possible to predict what will happen in future sea battles between the two adversaries. The only valid prediction will be that the Communists and the Nationalists will employ different tactics, use more ships, and conduct the battles differently in the future.

Ceasefire Period--After 1965, the Nationalists stopped their assault and infiltration operations against the Communists, thus reducing the chances for direct confrontation between the two navies. As the political tension between the Nationalists and the Communists eased, their ships began to avoid each other on purpose. As a result, the recent decade has not witnessed any major sea battle.

After the battles in the Minhai Sea, the Nationalist navy took the following five steps to beef up its capabilities:

1. Gradually retire old battleships, replace them with escort destroyers obtained through American aid;
2. purchase a number of destroyers from the United States in order to upgrade its firepower and speed;
3. purchase new anti-submarine equipment and precision weapons from the United States and Japan;
4. purchase one squadron of anti-submarine airplanes to make its anti-submarine capabilities three-dimensional;
5. completely recondition over-age amphibious boats to keep up its ability to supply offshore islands under Nationalist occupation.

Table 2. Decade-by-Decade Comparison of Nationalist and Communist Maritime Forces*

<u>Decade</u>		<u>End of 1956</u>	<u>End of 1966</u>	<u>End of 1976</u>
Total tonnage of merchant ships (1,000)**		unknown:661	669:770	1871:1450
Total number of merchant ships		unknown:324	231:166	360:428
Average tonnage of merchant ships		unknown:2040	2900:4600	5200:3390
Number of naval troops (1,000)		25:31	92:35	114:35
Average tonnage of naval ships		850:1190	680:1620	475:2050
Total tonnage of naval ships (1,000)		205:125	293:278	515:289
Total number of naval ships		241:105	429:172	1086:141
Type	Submarines	8:0	33:0	64:5
	Destroyers	2:3	4:5	8:18
	Convoy ships	2:5	6:16	10:10
	Missile speedboats	0:0	8:0	120:0
	Speedboats and Gunboats	50:0	192:6	675:20
	Other battleships	84:47	91:37	79:19
	Amphibious boats	70:32	60:86	58:51
	Auxiliary ships	25:18	35:22	72:18

*Communist figures are on the left, Nationalist figures on the right

**Figures do not include privately owned boats or boats under 25 tons in weight

The respective strength of the Nationalist and Communist navies as it stands at the end of 1966 can be seen from Table 2. In the recent decade, the Communists have concentrated on designing and building large naval ships:

1. The first "Han" class nuclear-powered submarine carrying traditional torpedoes was put on the drawing board at Talian Shipyard in 1965. The submarine was launched in 1972;

2. the first submarine carrying G-class missiles (or no missiles) was launched at Talien Port in 1967;
3. the first "Ming" class attack submarine was completed and launched at Talien Port in 1967;
4. the first "Luta" class missile destroyer was built by Talien Shipyard and was launched in 1972;
5. the first "Chiangtung" class missile escort destroyer was built by Shanghai Shipyard and launched in 1973.

In addition, Communist shipbuilding yards have churned out more and more "Chiangnan" class escort destroyers, faster "Huchuan" class hydrofoil torpedo speedboats, and more powerful "New Shanghai" class superspeed gunboats. At the same time, the Communists have retired the motley of naval ships captured earlier from the Nationalists. As a result, the Communist weaponry and ammunition have become standardized, making it simpler for logistic support, repair and maintenance.

In 1971, the Americans dropped the 72nd Taiwan Strait Patrol Detachment. In other words, the U.S. Seventh Fleet discontinued its patrol duties in the Taiwan Straits. Thereupon, the responsibility for the security in the Taiwan Straits fell entirely on the shoulders of the Nationalists. To fill the defense vacuum left by American pullout, the Americans have gone to great lengths to help the Nationalists put together a modernized destroyer fleet. The objective is to insure that the Nationalists will continue to hold the command of the sea. This destroyer fleet equipped with computers and nuclear missiles can entirely offset the local superiority of the Communist submarine fleet, which the Communists boast of being able to "dive deep, travel far, and stay underwater long." The rapid growth of the Nationalist destroyer fleet in the recent decade can be seen from Table 2.

In January 1965, the Chinese Communists obtained as "Osa" class missile speedboat from the Russians in an exchange. Soon they became keenly interested in the superior sea-to-sea missiles carried by that ship. After several years of research and development, the Communists began to produce sea-to-sea missiles in large quantities in 1972. Apart from copying Russian "Osa" and "Koma" classes missile speedboats, the Communists have also installed the missile systems on "Luta" class destroyers and "Chiangtung" class convoy ships, thus bringing their maritime firepower into a new era. In addition, they have put a number of small tactical nuclear warheads on their missile ships. The Communists' rapid expansion of their naval forces can be seen from Table 2. Such expansion is accentuated by phenomenal growth of their submarine and speedboat units.

Though the command of the sea still belongs to the Nationalists today, the Taiwan Straits is seething with tension and explosiveness from the confrontation between the Nationalists and the Communists. As the Communists

have stationed their missile fleets along the Fukien coast, the Nationalist ships go on "Battle Readiness One" as soon as they get within 30 nautical miles from the coast, with the assumption that a missile attack can come at any time. On the other hand, the Communists, fearing the powerful Nationalist anti-submarine capabilities, have tried to steer their submarines clear of the Taiwan Straits. A superficial calm has settled on the Straits, but the danger of naval conflicts is stalking the waters. Heavy fighting can flare up at any time.

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[Text] Part II The Chinese Nationalist and Communist Naval Strength and Their Ships' Characteristics

If one is to assess the Chinese Nationalist and Communist Naval strength at present and to predict trends for the future, one must have a complete understanding of the capabilities of the ships and their weapon systems of the two navies. He will be greatly mistaken if he makes a judgement purely on the basis of the number and tonnage of the ships alone.

It goes without saying that different ships in the Nationalist and Communist navies will have different equipment. Even ships in the same category will have different weapon systems, depending on which side they are on. To make it easier to understand a very complicated matter, the writer wishes to go into the weapon systems of the respective navies in detail first. After that, he will attempt an analysis of the characteristics of the ships on either side.

Weapon Systems

The weapons of the Chinese Nationalist and Communist naval ships fall into four main categories: anti-submarine weapons; sea-to-sea and sea-to-air missiles; ship battery; and sea mines and torpedoes. Let us deal with them one at a time:

1. Anti-Submarine Weapons:

The most effective instrument to detect the presence of a diving submarine is sonar. This piece of special equipment sensitive to supersonic vibrations can pick up the sounds of submarine propellers, thus determining the presence of submarines. It can also pick up reverberations from sound vibrations, thereby determining the distance, location and speed of subs. By the same token, it can also establish the direction and speed of attacking torpedoes. Both the Nationalist and Communist anti-submarine ships are equipped with sonar with an effective range of 3 nautical miles. In the last 2 or 3 years, the Americans furnished the Nationalist navy with an improved sonar (VDS-type sonar), extending its submarine detection range to 14 nautical miles. Another submarine detection method used by the Nationalists is by dropping sonar buoys from anti-submarine airplanes into intended waters. These submerged sonar buoys coupled with frequent anti-submarine patrols provide the Nationalists with an accurate picture of

what is going on under the water in the Taiwan Straits. For instance, it takes only six sonar buoys placed at equal distance to cover the "sea corridor" from Chinmen to Taiwan. It takes another two anti-submarine ships to patrol the same stretch of waters. This will be a sufficient deterrent to any enemy submarine for that area.

The most primitive and the best known anti-submarine weapon is the depth charge. Depth charges carried by naval ships are launched at the proper time based on the information provided by sonar. Unfortunately, while sonar can determine the location and distance of an enemy submarine, it cannot pinpoint its depth. Therefore, timing the detonation of a depth charge is a difficult job (depth charge does not explode on impact). Timing the detonation for too soon or too late will make a depth charge harmless even if it should roll over the body of an enemy submarine. Furthermore, when an enemy sub comes close to within 200 yards, the repeated reverberations of the same sound vibration will confuse a sonar to render it ineffective. In other words, at the most crucial moment, the question of when to drop a depth charge becomes a matter of guessing and luck. Because of this fault, a new breed of anti-submarine weapons found its way onboard both the Nationalist and Communist naval ships in the later 1960's, namely, the hedgehogs (ASW Ahead-Thrown Weapons) for the Nationalists and the anti-submarine rockets for the Communists. They work on the same principle. Before the sonar is to lose its effectiveness (when an enemy submarine is still more than 200 yards away), a number of these weapons (24 hedgehogs or 12 anti-submarine rockets in every single shot) are discharged in the direction of the enemy submarine for the right distance. They are spaced evenly so that if any one of them in their sinking comes into contact with the enemy submarine, it will detonate all the others released in the same shot to blow the sub to pieces. For the Communists, the depth charges and anti-submarine rockets are the only weapons currently in their possession. But for the Nationalists, two more lethal weapons--acoustic torpedoes and anti-submarine missiles--have been introduced into their anti-submarine arsenal since 1970.

A submarine during its underwater navigation must make some noise. It may stop its propeller. It may shut down its pumps. But it cannot turn off the air-conditioning system giving air to its crew. That little noise it makes is good enough for an acoustic torpedo. The acoustic torpedo is itself a complicated computer. It has a warhead, a propeller, a sonar, and electronic computer, an auto-pilot, and a target detector. It needs to be launched only in the general direction, determined by a ship's sonar, of an enemy submarine, and it will take care of the rest. The Nationalist navy is now in possession of "Mark-46" acoustic torpedoes. They can travel for 13 minutes in the water at 30 knots.

Apart from acoustic torpedoes, the Nationalists have also received from the Americans another deadly weapon--anti-submarine missiles. Now the anti-submarine missiles, with interchangeable nuclear warheads, are standard equipment on all Nationalist destroyers. They are just as effective against submarines as against enemy ships. They are similar to

acoustic torpedoes in structure except that they are moved by rocket propellers. They are first guided by their parent ship's electronic remote control system and sonar. When they get to within half a mile of the enemy submarine, they will dive headlong into the water. They will complete the rest of their mission on their own.

When faced with an attack from depth charges, or hedgehogs, or anti-submarine rockets (the three types of weapons have a range of less than 400 yards), a submarine still has time to counterattack with its torpedoes or to escape. When faced with acoustic torpedoes, it becomes a sitting duck. If faced with anti-submarine missiles, its fate is sealed. There is no escape from the jaws of death. At the moment, even the most technically advanced countries have not yet come up with a device to fend off anti-submarine missile attacks, not to mention the Chinese Nationalists or Communists. Table 3 shows the capabilities of various anti-submarine weapons.⁷

2. Sea-to-Sea and Sea-to-Air Missiles

Sea-to-sea missiles are the most important weapons for the Chinese Communist navy and are causing the greatest concern among the Nationalists. The Communists have copied the Russian Styx (SS-N-2) sea-to-sea missiles and have installed them on all their missile speedboats, missile destroyers, and missile escort destroyers. Their ballistics work like this: The missile-carrier ship will "lock" in on the target enemy ship with its horizontal radar and then launch the missile according to the target's speed and course. The "synchronized radar" in the missile will start itself when the missile gets within 5 nautical miles from its target. This radar system equipped with ultra-red heat-chaser, will guide the missile toward its target.

However, Styx missiles cannot stand turbulence. Take speedboats for instance. When they sail in winds of gale force 4 or above, the sway of their bodies will make the launching of such missiles totally inaccurate. In spite of this drawback, these 800-pound missiles are deadly accurate if the wind is still and the sea is calm. For example, during the 1967 Arab-Israeli war, an Egyptian missile speedboat fired Styx missiles from the quiet sea within Port Said against an Israeli destroyer patrolling 15 nautical miles away. It took only three missiles to send a 2,500-ton destroyer to the bottom of the sea. What destructive power!

The Nationalist navy also entered the missile era in 1975. The Nationalists equipped all their destroyers with Israeli-made Gabriel-II sea-to-sea missiles to counter-balance the expanding capabilities of the Communist surface fleet. Gabriel-IIs are similar to Styx's in capabilities, as can be seen from Table 4.

For both the Nationalists and the Communists, their sea-to-air missiles are embryonic. The Chinese Communists installed the first generation of their

Table 3. Capabilities of Anti-submarine Weapons of Chinese Nationalist and Communist Navies

<u>Type</u>	<u>Quantity (note)</u>	<u>Range (yd)</u>	<u>Weight (lb)</u>	<u>Control</u>	<u>Movement</u>	<u>Characteristic</u>
PRC MK-6 depth charges	445 ship 537 pc	200	330	pre-set detonation	free sinking	may be dropped by IL-28 bombers
ROC MK-9 depth charges	26 ship 50 pc	200	250	ditto	ditto	may be dropped by S-2A bombers
PRC Barrel anti-sub rockets	24 ship 48 pc	400	160 (12 rounds)	impact	ditto	12 rounds in 1 shot
ROC MK-15 hedgehogs	15 ship 29 pc	380	140 (24 rounds)	ditto	ditto	24 rounds in 1 shot
ROC MK-46 acoustic torpedoes	29 ship 165 pc	1,200	330	computer sonar acoustics	electric propeller	may be dropped by S-2A bombers
ROC Asroc anti-sub missiles	4 ship 32 pc	12,100	1,000	remote control acoustics	solid fuel rocket, electric propeller	interchangeable nuclear warheads

Note: "445 ship, 537 pc" means there are 537 dischargers (or launchers) onboard 445 naval ships, etc.

"antelope" (SA-N-1) sea-to-air missiles on their "Chiangtung" class convoy ships as early as 1971. No more has been heard about them since. Apparently the Communists are facing very serious design and construction problems. On the other hand, the Nationalists have bought Chaparral sea-to-air missiles⁸ from Israel and planned to put them on all their destroyers to augment their anti-aircraft firepower. Besides, the Nationalists are bargaining with British, French and South African arms merchants for purchase of more advanced sea-to-air missiles. It is very likely that in 2 or 3 years the sea-to-air missiles will be standard equipment for both the Nationalist and the Communist navies.

Up to now, neither the Nationalists nor the Communists have "electronic anti-missile" system in their arsenals. For now, both the Nationalist and Communist naval ships must rely on their ineffective artillery as their only anti-missile weapons.

As the sea-to-sea missiles have the speed of only 530 nautical miles an hour (comparable to the speed of the old MiG-15 fighters), they may be detected by radar gun control apparatus installed on both Nationalist and Communist ships. The point is that even if it is spotted, it needs only 2 more minutes to fly into the firing range of the ship's battery. In those 2 short minutes, it will be very difficult first to determine whether it is an enemy missile and then to make firing preparations. Once it is within the firing range of the ship's battery, there is only 30 seconds in which to shoot it down. Therefore, it may be said that the anti-aircraft artillery, at its present speed and accuracy, of both the Nationalist and Communist ships still offers no defense against the sea-to-sea missiles.

3. Ship's Battery

The main battery of the Chinese Communist navy consists of the following:

a. Four 5.1-inch flat-fire guns emplaced on each destroyer. These director-guided pieces have an effective range of 27,000 yards. b. Two to six 3.9-inch guns emplaced on each escort destroyer and patrol boat. Also director-guided, these guns have an effective range of about 20,000 yards. c. 57-mm and 37-mm semi-automatic anti-aircraft guns and anti-aircraft machine guns of different caliber installed on various ships. These weapons are all copies of Russian prototypes. It is also known that the Communists have made little improvement on their gun directors. Hence, the accuracy of the Communist ships' battery depends largely on weather conditions and gunners' experience.

The Nationalist ships' battery includes 5-inch and 3-inch guns, with ranges of 18,000 and 14,000 yards respectively, installed on the destroyers (4 to 6 pieces each) and the escort destroyers (2 pieces each). Even though the Nationalist main battery is inferior in caliber and range, it is superior in accuracy to Communist guns. As soon as the director-radar is fixed on a target enemy ship, a computer in charge of directing the guns begins

processing data such as the speed of both the enemy ship and its own ship, wind velocity, the sway of its own ship, etc. and then adjusts the guns for the right azimuth and angle of elevation. The Nationalist computer-directed guns attain an accuracy rate of 95 percent. Since 1969, such radar control system has been installed on Nationalist ships one after another to direct artillery fire. The 5-inch and 3-inch guns can also be used against aircraft. However, the standard anti-aircraft weapon is the semi-automatic 40-mm anti-aircraft gun. It fires "magnetic" shells, which differ from ordinary shells. Magnetic shells have both contact detonator and time fuse, while ordinary shells have either one or the other, but not both. Therefore, even if the magnetic shell does not score a direct hit, it will explode at a point nearest to the enemy airplane as a result of magnetic reaction. With such magnetic shells, a radar-directed anti-aircraft gun has a hitting average of 0.03 against supersonic aircraft. This compares with the hitting average of 0.0005 (namely only 1 hit in every 2,000 rounds fired) of conventional semi-automatic anti-aircraft guns. Apart from the guns, the Nationalists also have smaller caliber weapons such as 20-mm automatic anti-aircraft cannons and half-inch heavy machine-guns on their naval ships. Table 5 shows the types and characteristics of the ships' battery of both the Nationalists and the Communists.

While the ships' guns are used mainly against enemy shipping and enemy aircraft, they are often called into action during shelling of the coastal areas, especially during saturation bombing of the beaches before amphibious troops are to land.

4. Mines and Torpedoes

The Taiwan Straits, for its depth and for the topography of its shores, is an ideal place for both the Nationalists and the Communists to lay mines. All that is needed to stop enemy naval ships and submarines is to put a cluster of mines in all the harbors and bays and along all sea lanes and shipping routes where the water is not more than 600 feet deep. Each mine contains several hundred pounds of high explosive encased in a steel ball. Any ship that strikes a mine will either sink or be severely damaged.

The mine of the longest standing is the "contact mine." It has many horns on its surface. It is submerged in water at a depth of between 10 and 20 feet. Anything that touches one of its horn will detonate it. The "Acoustic Mine" and the "Magnetic Mine" were introduced during World War II. They are usually submerged at the depth of 30 feet. The "acoustic mine" has a special "eardrum fuse." When a ship passes by above it, the noise from the ship's propeller will affect the "eardrum fuse" and detonate it. The "magnetic fuse" has a "magnetic fuse." A ship passing above will trigger the magnetic mechanism to detonate it. After the war, "pressure mines" and "combined influence mines" were developed to frustrate mine-sweeping efforts. The "pressure mine" has a pressure fuse which can only be set off by substantial water pressure created by large naval ships of

Table 4. The Nationalist and Communist Naval Sea-to-sea and Sea-to-air Missiles

	Type	Q'ty	No of Rounds per firing	Firing range (mile)	Firing Height (feet)	Shell length (feet)	Shell Weight (lbs)	Propelling- control system
ROC	Gabriel-II S-to-S Missile*	5 ships 25 pcs	10	22	--	11.0	400	solid fuel, radar-guided, semi-automatic chasing visually
	Chaparral S-to-A Missile*	? ?	45	9	50,000	9.5	25	solid fuel, ultrared heat chasing
PRC	Styx SS- N-2 S-to- S Missile	132 ships 400 pcs	1	25	--	15.0	800	solid fuel, radar-guided, semi-auto ultrared chasing
	Goa SA-N-1 S-to-A Missile	1 ship 4 pcs	?	17	40,000	19.3	45	Solid fuel, radar-guided semi-automatic chasing

*Note: the Nationalists are putting these two types of missiles on all naval ships.

considerable tonnage passing over the mine. Its fuse will not react to small ships or minesweeping equipment. The "combined influence mine" has all three types of fuses--"eardrum," "magnetic," and "pressure" and is therefore the most reliable.

Any kind of mine, except the "contact mine," will pose a greater threat if it is outfitted with a "timer." For instance, if the "timer" is set to 10, the mine will blow up only when the 10th ship passes over it. It means that any minesweeping equipment passing over it 9 times will still be unable to clear it away. Another lethal type is the "electronic mine" which is detonated by remote control and cannot be swept away at all. In short, mining operation is getting more and more complicated each day. For the present, both the Nationalists and the Communists are in possession of all six types of mines described above. As to the methods of mining, mines can be dropped from airplanes or laid by ships, submarines, or even sampans.

A discussion of mine-laying naturally leads to a discussion of minesweeping. Sonar, a device that can detect the presence of submarines, can also detect the presence of mines. Sonar search may be coupled with aerial visual search of shallow waters. However, locating the mines is only the beginning. The difficult task is to safely detonate the mines. "Contact mines," "acoustic mines" and "magnetic mines" are easy to get rid of. All it takes is cut rope, noise makers and magnets to set them off respectively. But

"pressure mines," "combined influence mines" and "electronic mines" are hard nuts to crack. At present, both the Nationalists and the Communists own dozens of minesweepers, but their minesweeping abilities are very limited. Such limitations are not confined to the Chinese Nationalists or Communists. They are worldwide. If one opens any sea chart of small scales, one will see markings such as "danger! Uncleared Mines" at scores of spots. This is proof that mines are very hard to clear away.

Torpedoes remain a conventional but effective weapon after several decades of use. An ordinary torpedo has a propeller, a fuel chamber, a control system, and a warhead. It can be launched from an airplane, a ship, or a submarine against an enemy surface or underwater target. The torpedoes (except acoustic torpedoes) in the Nationalist and Communist arsenals are the conventional type--battery-driven, 21 inches in diameter, with a speed of 30 knots. Because of the limitations of their detonation devices (timer, or contact fuse, or magnetic fuse), these torpedoes must be accurately aimed at the target. At present, the torpedoes (weighing 2 and a half tons) deployed on both the Nationalist and Communist submarines have an effective range of between 2,000 and 5,000 yards. Those deployed on Communist bombers and torpedo speedboats (weighing 1 ton each) have an effective range of between 400 and 800 yards.

Types of Ships

Now that we have covered the naval weapon systems, we will get on with our discussion of the various types of naval ships. Generally speaking, the Chinese Nationalist and Communist naval ships fall into six main categories: (1) submarines of various types, (2) destroyers of various types, (3) battle ships of various types, (4) speedboats of various types, (5) amphibious boats, and (6) auxiliary boats. The first four types are used in sea battles while the last two for logistic support. Let us deal with them one at a time:

1. Submarines of Various Types

Since World War I, the submarines have emerged as the backbone of naval forces competing for the dominance of the sea. They are effective strike weapons against a numerically superior enemy surface force. The Chinese Nationalist and Communist submarines are propelled by diesel combustion engines when they are moving on the surface and by batteries when they are diving. Due to technological breakthroughs, the Nationalist and Communist submarines, fashioned after the German No 21 Submarine Prototype, can stay submerged for a long time. They are no longer like the World War II models which had to surface to recharge their batteries frequently. The present deep-sea submarines (carrying approximately 20 torpedoes) weigh over 1,500 tons and have an operational radius of 15,000 nautical miles. Coastal submarines (carrying 6 torpedoes) weigh approximately 1,000 tons or less. Their surface and diving speed averages between 15 and 20 knots. They can dive to depths of around 400 feet. Their crew size runs up to 90 members.

The Chinese Communists have one nuclear-powered submarine (carrying 17 torpedoes) which, of course, can dive deeper and longer and move faster.

A submarine's mission is related to the weapons it carries. It can fire torpedoes against enemy shipping. If outfitted with special equipment, it can lay mines. If equipped with anti-submarine sonar, it can hunt for enemy subs. If equipped with sea-to-land missiles, it can strike at land targets. Apart from being an offensive weapon against enemy ships, a submarine can also carry special force troops to make coastal penetrations. Submarines have both advantages and disadvantages. First of all, submarines are incapable of fulfilling a number of naval duties, such as search and sentry duties, escorting convoys, shelling coastal targets, or supporting amphibious operations. Furthermore, submarines have no defense against air strikes. They are sitting ducks when they run into aerial attacks (especially from anti-submarine aircraft). Lastly, considering the present capabilities of the Chinese Nationalist and Communist submarines, they are defenseless against latest sophisticated anti-submarine weapons and can hardly survive an enemy anti-submarine offensive.

Table 5. Capabilities of Nationalist and Communist Naval Guns*

	Type	Quantity	Speed (round per min)	Firing range (yard)	Firing height (feet)	Shell weight (lbs)	Special features
PRC	5.1" guns	11 ships 38 pcs	10	27,250	--	59.5	Wasphead gun director, semi-auto, flat fire
	3.9" guns	15 ships 43 pcs	20	19,620	39,360	35.3	Sun-visor gun director, semi-auto, dual purpose
	57-mm aaa	164 ships 305 pcs	120	9,810	16,000	6.2	Skinhead gun director, semi-auto, dual purpose
	37-mm aaa	572 ships 1888 pcs	180	4,360	4,920	1.6	ditto
ROC	5" guns	34 ships 129 pcs	22	18,000	37,400	55.1	MK-37 gun director, semi-auto, dual purpose
	3" guns	33 ships 66 pcs	50	14,170	29,520	13.3	MK-37 gun director, automatic, dual purpose
	40-mm aaa	79 ships 389 pcs	160	5,000	13,450	2.1	MK-37 gun director, semi-auto, dual purpose

*not included are small guns with caliber less than 30 minimeters or non-naval guns (like 75-mm howitzer)

2. Destroyers of Various Types

In today's navies, the destroyer has completely taken the place of capital ship and cruiser to become an "all-round battleship." As destroyers are seaworthy, durable, fast, and equipped with a complete range of weapons, they can perform any sea duty under any weather condition. The Nationalist and Communist destroyers weigh from 2,000 to 3,800 tons, have a maximum speed of 36 knots, are manned by a crew of approximately 300 members, and have an operational radius of 7,000 nautical miles. They are now the king of the sea. They can attack enemy ships with guns, missiles or torpedoes; enemy aircraft with antiaircraft guns; and enemy submarines with various types of anti-submarine weapons. They can shell coastal targets with their main battery. With radar, they can search the sky and the sea and serve as early warning systems. They can, with special equipment, seed the sea with mines. Some Nationalist destroyers even carry with them helicopters which extend their reach even further in performing any of the above described duties. Besides, destroyers can also perform deep-sea rescue and towing missions. In short, they can do anything at sea.

For defensive purposes, a destroyer can repel attacks from the air, the sea and from under the water with its three-dimensional fire. It can serve as an escort and sentry ship for convoys. It can provide supporting fire for amphibious operations with its main battery. Should the sea-to-sea missiles deployed on Communist destroyers and the anti-submarine missiles deployed on Nationalist destroyers be outfitted with small tactical warheads, the respective destroyers could mount a nuclear strike and inflict greater damage and loss of lives on the enemy.

In the past two decades, the Chinese Nationalists and Communists have made little improvement on the structure and power unit of their respective destroyers and yet have made amazing progress in upgrading their weapon systems. The missiles, computers and nuclear power have increased the offensive capabilities of modern destroyers by 100 fold from 20 years ago. Take the Nationalist "Hanyang" Missile Destroyer for example. It boasts anti-submarine missiles, acoustic torpedoes, helicopters, and radar-guided artillery. The entire ship is covered by closed-circuit air-conditioning system. Its immunity to nuclear attacks makes it a unique ship in the Chinese Nationalist and Communist navies. In fact, it is the only ship in the world that can survive in a nuclear holocaust.⁹

3. Battleships of Various Types

These include escort destroyers, patrol boats, minesweepers and minelayers (excluding submarines, naval vessels weighing less than 300 tons are called boats; those weighing over 300 tons are called ships). In tonnage, firepower, speed and capabilities, these ships are inferior to destroyers.

Escort destroyers weigh between 1,500 and 2,300 tons, have a speed of around 25 knots, and call for a 200-man crew. They can attack enemy aircraft, surface ships and submarines. They can serve as escort for ship

convoys and support amphibious operations. Chinese Communist escort destroyers can also lay mines. A number of Nationalist escort destroyers can hold four landing craft vehicle personnel (LCVP) and a 160-man amphibious reconnaissance company to conduct pre-landing reconnaissance. Chinese Communist patrol boats can be grouped into at least five types. Their tonnage ranges from 200 to 1,300. Their speed varies between 11 and 27 knots. Their crew numbers less than 100 men. Relying on their main guns and antiaircraft guns, they are responsible for coastal patrol and coastal defense. Nationalist patrol boats are armed with acoustic torpedoes, depth charges and sonar. They are highly effective anti-submarine war vessels.

Mine sweeping and laying ships are, of course, responsible for sweeping or laying mines. At present, Chinese Nationalist and Communist minesweepers and minelayers weigh between 300 and 800 tons, move at under 18 knots, and call for a crew size of about 50 men. Right now, these minesweepers are helpless against "combined influence mines" and "pressure mines."

4. Speedboats of Various Types

These include various types of torpedo speedboats, superspeed gunboats and missile speedboats. Their water displacements are--torpedo speedboats: between 25 and 80 tons; superspeed gunboats: between 40 and 160 tons; missile speedboats: between 100 and 200 tons. Their speed is usually over 30 knots (hydrofoil gunboats and hydrofoil torpedo boats can speed to 55 knots). Their crew runs up to 20 men. Being small in size, these boats cannot take rough sea too well. Being fast in speed, they are real gas guzzlers. Therefore they cannot fight too far away from their bases. They are, however, very well suited to working in shallow waters and among islands, like the waters along the rugged coasts of Chekiang, Fukien and Kwangtung Provinces.

Superspeed gunboats rely on high-angle fire artillery as their main weapons. Torpedo speedboats each carry from two to four torpedoes. Besides, they also carry a number of machine guns. What they do is that they will close in on enemy ships at high speed, pour converging fire or launch torpedoes against the targets, and then speed away from the fight. The trouble is that they must attack at close range and, being thinly built, stand a good chance of being destroyed themselves by enemy automatic fire during the combat.

Missile speedboats are exclusive to the Chinese Communist navy. "Holo" class missile speedboats each carry four sea-to-sea missiles. Those of the "Hoku" class each carry two. As the missiles have a longer range and a higher hit average, missile speedboats have become the star of the Chinese Communist surface fleet. The trouble with them is that they are also thin in build and expose their radar and missiles in the open--an inviting target for enemy fire. They are not very seaworthy or durable and therefore must stay close to home bases.

5. Amphibious Boats

To make an opposing landing, only amphibious boats can bring landing troops, reinforcements and supplies to the enemy shore amid enemy fire. The majority of both Chinese Nationalist and Communist landing craft are American made (The Communists took over the American made craft from the Nationalist hands during the course of the civil war). They can be classified as follows:

Landing Ship Dock (LSD): The Nationalists own two of them. They displace 9,400 tons of water, have a speed of 16 knots, and are manned by a crew of 330. Each of them can carry 40 amphibious transport vehicles, or 32 landing craft vehicle personnel, and 10 companies of landing troops. Besides, with its helicopter deck, each of them can carry two attack helicopters. They are the heaviest ships owned by the Nationalists.

Landing Ship Tank (LST): At present, both the Nationalists and the Communists own several dozen of them. They make up the backbone of the respective amphibious fleets. Each LST displaces 4,100 tons of water, has a speed of 11 knots, and requires a crew of 120 men. It can carry six landing craft vehicle personnel. In addition, it can hold 17 amphibious transport vehicles (or tanks) and 6 companies of landing troops. Being large and slow, it is nicknamed jokingly as a "Large Slow Target."¹⁰

Land Ship Medium (LSM): Both the Nationalists and the Communists own a number of them. These vessels displace 1,100 tons of water, move at 12 knots, and require a crew of 60 men. Each of them can hold eight amphibious transport vehicles and two companies of landing troops. Because of their low drafts, they can land on shallow water beaches. At present, the Nationalists are using four LSMs to supply troops stationed on Tungsha and Nansha Islands. The Communists, on the other hand, have converted some of their LSMs into minelayers.

Infantry Landing Craft (LSIL): The Nationalists have dropped this type of vessel while the Communists still keep a dozen or so of them in service. When fully loaded, these crafts displace 285 tons of water, can achieve a speed of 10 knots. They require a crew of 10. They can carry one infantry company or three light tanks (or trucks). They are especially suited to operating among island groups and coastal areas. During amphibious assaults, these vessels will beach to unload landing forces and vehicles on beachheads.

While on the subject of amphibious operations, tools for the "ship-to-shore movement" merit mention here. It is obvious that if the above-mentioned landing ships are to beach on their own amid enemy fire, it is like walking right into the jaws of death. Therefore, the "ship-to-shore movement" must be achieved with the help of the following tools:

Amphibious Tanks: Amphibious tanks can move both in the sea (being different from those tanks that can cross rivers) and on land. With their

cannons, heavy and light machineguns, they can neutralize enemy fire on the beachheads. They are carried to the landing zone by any of the above-described landing ships. Then they are lined up and move one abreast of the other toward the beach, firing as they move to provide cover for landing forces. They are indispensable in amphibious battles. At present, the Nationalists own several dozen American-made LVTA-5 amphibious tanks (nicknamed duckie), each equipped with a 3-inch cannon. The Communists boast several hundred Chinese-made T-60 amphibious tanks, each equipped with a 76-mm cannon.

Amphibious Transport Vehicles: When landing is attempted on a stretch of hazardous coastline (rocks on shore and coral reefs in water), amphibious transport vehicles are used to drop assault troops on the enemy shore. These vehicles have thick armor to protect their passengers and are armed with several light and heavy machineguns for suppression of enemy fire. They can quickly bring the landing forces dozens of miles inland. At present, the Communists do not yet have a single amphibious transport but the Nationalists own hundreds of LVTP-5 amphibious transports. Each transport can carry one marine platoon and 2.5 tons of supplies.

Small Landing Craft: They include the 20-ton landing crafts machinery (LCM) and the 9-ton landing crafts vehicle personnel. They can each land one marine platoon on the beachhead. In addition, they can also carry tanks, vehicles and supplies unloaded from transport ships to the beachhead. Generally speaking, the second wave of assault forces to make an opposed landing are either carried by amphibious transport vehicles or carried by small landing craft. Both the Nationalists and the Communists can make these craft themselves. At present, the Communists own 450 small landing craft while the Nationalists, 200.

Any type of amphibious ships is armed with antiaircraft cannons and machineguns so that they can fend off air strikes. However, they cannot attack submarines or large surface ships. Because of their vulnerability, they are generally escorted by convoy ships.

6. Auxiliary Ships

Unlike battleships or amphibious ships, auxiliary ships do not engage in combat. They fall into the following eight categories:

Repair Ships (AR): The entire ship is like a small repair yard. It is often anchored in waters frequented by other naval ships in order to make small repairs on the sea. Both the Nationalists and the Communists own one repair ship, weighing over 4,000 tons.

Oiler (AO): They are similar in structure to oil tankers. They have mid-sea refueling facilities and their mission is to refuel naval ships at sea, saving them a trip back to home bases. The oilers can also bring gasoline and oil to territorial islands. At present, both the Nationalists and the Communists own several oilers.

Supply Ships (AS): They are so constructed as to be able to carry ammunition, torpedoes, mines, and other supplies. They bring supplies to naval ships on sea duties. At present, the Chinese Communists have six torpedo speedboat supply ships and submarine supply ships, thus greatly expanding the operational radius of their speedboats and submarines. The Nationalists have none.

Transport Ships (AK): Their mission is to transport military materiel and personnel. The Nationalists own three transport ships at present. They displace 3,000 tons of water and can attain a speed of 23 knots. They are the cream of all auxiliary ships. The Communists own 20 transport ships (including some ice-breakers).

Tugs (AT): Their duty is to tow stalled or damaged ships back to home bases. They weigh between 500 and 2,000 tons and can operate far away from home bases. Right now the Nationalists own six and the Communists 21.

Survey Ships (AGS): Their duty is to survey territorial waters and shipping routes regularly and to provide the latest data on sea currents, terrain at the sea bottom, and oceanographical characteristics to their navy. At present, both the Nationalists and the Communists own several of these survey ships.

Floating Drydock (ARD): They are supplements to repair yards at the home bases. They may also be towed to the battle zone to provide maintenance and repair facilities on the spot. Right now the Nationalists own five floating drydocks capable of handling ships with 3,000 tons or less of displacement not under load. The Communists launched a floating drydock in 1974 that can service ships of up to 25,000 tons of displacement not under load.

Intelligence Ships (AGM): They are equipped with special electronic and radar guidance systems and can serve as a midway guiding station for ballistic missiles. Today the Chinese Communists own four such ships, with undetermined capabilities and efficiency.

The abovementioned auxiliary ships are armed with antiaircraft cannons and machineguns. However, due to their heavy weight, thin armor, and slow speed, they must be escorted by other battleships or they will be sitting ducks in the face of underwater, surface and air attacks. Besides, both the Nationalists and the Communists have hundreds of merchant ships. With the addition of several naval signal officers to the crew and some restructuring of the ships, the merchant ships can quickly be converted into military transport ships and oilers. (The only difference between a naval ship and a merchant ship is armament.)

The submarines, destroyers, battleships, speedboats, amphibious ships and auxiliary ships described above, plus a small number of gunboats for harbor and river defense, make up the bulk of the Nationalist and Communist naval forces. Besides, the Communists also have about 5,000 armed sampans and

motor junks that do not deserve any further classification. Their displacement is under 20 tons. They are not fit to take up combat duties on the open sea far away from the coast and will not contribute much to the contention for the command of the sea in the Taiwan Strait. Therefore, they do not merit any further elaboration.

Worth mentioning in the last paragraph are the ship's planes. Presently neither the Nationalists nor the Communists own any ship's planes. Nevertheless, the Nationalists own 18 large ships that can carry one or two helicopters. Helicopters can perform such duties as long-distance transportation and rescue. Furthermore, they can be equipped with suspension-type sonar and acoustic torpedoes and thus become long-range anti-submarine weapons. During amphibious operations, these helicopters can serve as aerial observation posts and communications centers to guide ships' artillery. With their rockets and machineguns, they can also provide cover fire for marines taking a beachhead. The introduction of helicopters into the navy has taken modern naval warfare a giant step forward.¹¹

[Apr 77, pp 24-33]

[Text] Part III The Chinese Nationalist and Communist Naval Organization and Capabilities

Military capabilities express themselves in both tangible and intangible forms. The various types of naval ships and their weapons will definitely contribute to tangible capabilities. Nevertheless, they must be backed up by "supply, repair and maintenance operations" and "combat training," two other indispensable components of the tangibles. Then, how to bring the tangible capabilities into the fullest play? That is where the intangible capabilities--morale and leadership--come into the picture.

The administrative and tactical organization will serve as a catalyst in the fusing of the intangibles with the tangibles. In other words, naval organization and naval capabilities are really two sides of a coin. They are not independent of each other.

The Chinese Nationalist and Communist Naval Organization

The Chinese Communist navy has a total of 170,000 men, representing 5.2 percent of the strength of the People's Liberation Army. Of these men, 110,000 belong to naval forces, 20,000 belong to the naval air service, and 38,000 belong to the marine corps. The Chinese Communist navy owns 1,100 ships and 650 airplanes. Its organization is shown in Table 6.¹² The Navy General Headquarters of the People's Liberation Army is at the top of the chain of command. Its staff units are responsible for setting up naval forces and then keeping them going. It has its seat in Peking. Its first echelon operational units include the coastal artillery headquarters, the marine headquarters, naval aviation headquarters, and, most importantly, the submarine headquarters and the three fleet headquarters.

The three fleet headquarters form the regional tactical command centers of the Chinese Communist navy. They are: The North Sea Fleet Headquarters (its jurisdiction extending from the mouth of the Yalu River to Lienyunkang), East Sea Fleet Headquarters (its jurisdiction extending from Lienyunkang to the southern tip of the Taiwan Strait), and South Sea Fleet Headquarters (its jurisdiction extending from the border between Fukien and Kwangtung Provinces to Hsisha Islands). These three fleet headquarters exercise operational controls over all the naval units as well as support units of other arms of service in their respective jurisdictions. Of the three, the East Sea Fleet Headquarters understandably controls nearly half of the Chinese Communist battleships because its jurisdiction happens to include the Taiwan Straits.

The main bases of these fleets are as follows:

North Sea Fleet--Lushun, Tsingtao, Taku, Yentai

East Sea Fleet--Shanghai, Choushan, Foochow, Amoy

South Sea Fleet--Huangpu, Chanchiang, Shantou, Yulin

In addition to these main bases, there are 17 lesser naval bases along the China coast.

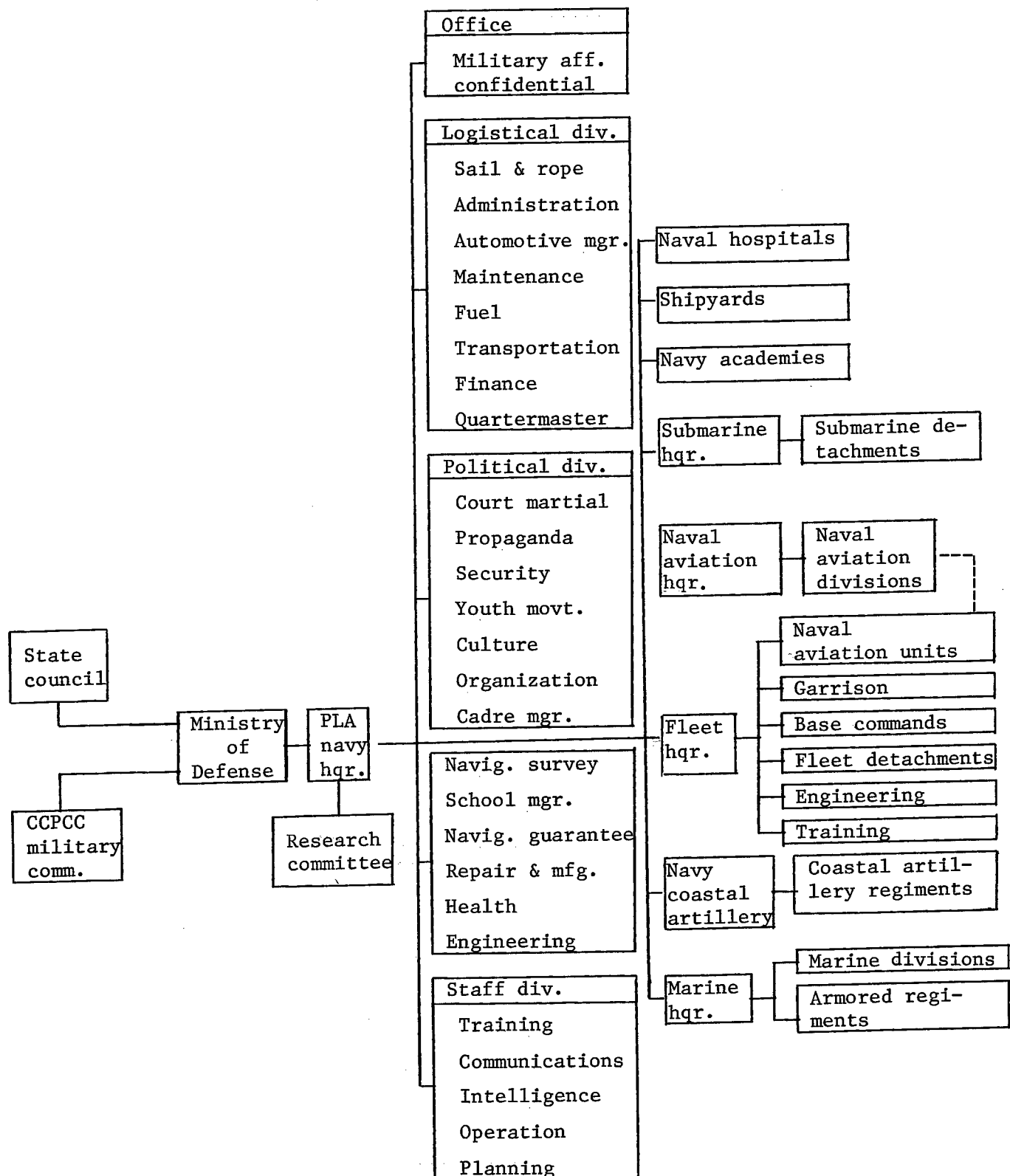
The 64 submarines and one submarine supply ship come under the Submarine Headquarters. They are grouped into five submarine detachments. The main bases are Lushun, Tsingtao and Choushan, where training for underwater combat in coastal shallow waters is conducted. When Americans started pulling out of Vietnam in 1973, the Communists moved some of their submarines south to Yulin Harbor and began training for deep-sea diving and combat in the South China Sea. Though the Submarine Headquarters is responsible for training programs, logistics and administration, it does not command the submarines. The submarines are under the command of the three fleet headquarters in time of war.

The Marine Headquarters is in command of three marine divisions (each division has an artillery regiment, three infantry regiments, and other supporting units) and four armored amphibious regiments. The bulk of these marine forces is deployed along the east and south China coast. Amphibious exercises are frequently conducted.

The Coastal Artillery Headquarters commands 12 coastal artillery regiments deployed along the coast and approximately 500 coastal guns.

The Naval Aviation Headquarters controls nearly 100 old-fashioned IL-28 torpedo bombers, 400 F-9, F-6 and F-4 fighter bombers, and a little more than 100 auxiliary airplanes. These aircraft are organized into six mixed Air Attack Divisions and an Auxiliary Aviation Regiment directly commanded by Headquarters. They are stationed at air bases along the coast. Unlike the aircraft in the air force, these naval airplanes are remodeled for sea

Table 6. Chinese Communist Naval Administrative System



combat duties. Some of them can strafe and bomb enemy ships with their machine guns and rockets. Some of them can attack enemy ships with their torpedo bombs. Some can lay mines from the air. These naval planes are subordinate to the three fleet headquarters and are under their command in time of war.

The Chinese Communist naval militia units control 5,000 armed sampans and motor junks and over 1 million regular and irregular militiamen. In time of peace, the militiamen help the naval regulars with their coastal patrol, transportation and sentry duties. In time of war, they are combat forces to be reckoned with. In combat, they can count on the support from innumerable (at least more than 200,000) fishing boats and sampans which can serve as mobile coastal machine-gun positions or coastal freighters.

Apart from the submarines, the Chinese Communist navy also owns eight destroyers, 10 escort destroyers, 54 patrol boats, 22 minesweepers, 800 speedboats, 58 amphibious boats, and 72 auxiliary boats at present. These boats are regimented into 60 detachments (each detachment has from 12 to 22 ships) according to their characteristics, commanded by the three fleet headquarters (see Table 7). It must be stressed that more than 100 of these ships can launch sea-to-sea missiles. They form the navy main force on the first line.⁴

On the other side of the Taiwan Straits, the Nationalist navy has 67,100 men in uniform, representing 13.6 percent of the total strength of the Nationalist armed forces. Of this number, 35,000 men work on the ships and 9,000 are marines. The Nationalist navy owns 140 ships of over 25 tons in weight and 30 helicopters and anti-submarine airplanes. Its administrative and organizational system is shown in Table 8¹³. Apart from staff units, the Nationalist Navy General Headquarters commands two first-echelon operational units, namely the fleet headquarters and the submarine headquarters.

The fleet headquarters is the operational nerve center of the Nationalist navy. It has two arms, namely the amphibious units and the destroyer-patrol boats units. The former include two landing craft fleets, one independent ship detachment, two small-craft brigades, one demolition brigade, and one beach duty brigade. They are responsible for amphibious operations and supplying the civilian and military populations on Matsu Islands (19 islands), Chinmen Islands (14 islands), Tungyin and Wuchiu (0.52 square kilometer), Penghu Islands (64 islands), Tungsha Island (11 square kilometers) in the Tungsha islands, and Taiping Island (0.43 square kilometer) in the Nansha group of islands. The latter include two destroyer fleets, two patrol boat fleets, one minesweeper and minelayer fleet, one auxiliary fleet, one speedboat detachment, and one submarine detachment. They are charged with patrol and sentry duties in waters surrounding Taiwan. They are also responsible for rescue missions on international beaches in the Far East. The Nationalist naval ships include five submarines, 18 destroyers, 10 escort destroyers, 16 minesweepers, 23 battleships, 51 amphibious boats, and 18 auxiliary boats. The

Table 7. Chinese Communist Naval Tactical Units

<u>Type of Detachment</u>	<u>North Sea Fleet</u>	<u>East Sea Fleet</u>	<u>South Sea Fleet</u>	<u>Sub- total</u>
Escort and patrol detachments	2	2	1	5
Submarine detachments	3	1	1	5
Mine sweeping and laying detachments	2	2	1	5
Missile speedboat detachments	2	3	1	6
Torpedo speedboat detachments	4	5	3	12
Gunboat detachments	7	9	5	21
Landing troop detachments	1	2	1	4
Logistical detachments	1	2	1	4
Total number of detachments	22	26	14	62

main naval bases are Tsoying, Makung and Keelung. The lesser bases are Kaohsiung, Hualien and Tachung.

The marine headquarters commands two marine divisions, whose organizational structure and method of training are patterned after those of the American marines. The Nationalist marines also use heavy weapons and have high mobility. Recently an aviation wing has been added to the marine command, using Nationalist-made assault helicopters. The air marines add an extra dimension to the marines' amphibious capabilities. The Nationalist marines are based throughout southern Taiwan, plus Tungsha islands, Nansha islands, and Wuchiu Island. They are so well equipped and trained that they are rated by Western military experts as among the best in the world.

The "62 Task Force" is a tactical unit of the Nationalist armed forces for the defense of the Taiwan Straits. Its commander is usually also the commander of the fleet headquarters of the Nationalist Navy. The task force controls North Patrol Detachment, South Patrol Detachment, Matsuo Transportation Detachment, Chinmen Transportation Detachment, and Nanwei Detachment, each detachment consisting of a mixture of naval ships suited to its mission. The task force also controls fighter planes and anti-submarine aircraft assigned to Straits defense duties by the Nationalist air force.

The U.S. Taiwan Defense Command plays a different role. It is a tactical coordination unit composed of 150 U.S. military officers and men. It can call in American troops in the Far East to come to the Nationalist aid in times of need according to the stipulations of the Sino-American Mutual Defense Treaty. However, USTDC discontinued its patrol duties in the Taiwan Strait as of November 1969 and disbanded its "72 Taiwan Strait Patrol Detachment" as of February 1971. Thereupon, the Nationalist navy has assumed responsibilities for the security in the Taiwan Strait single-handedly. As the United States has tried to improve her relations with Communist China in recent years, the Nationalists no longer place much faith in USTDC.

An Appraisal of the Chinese Communist Naval Equipment

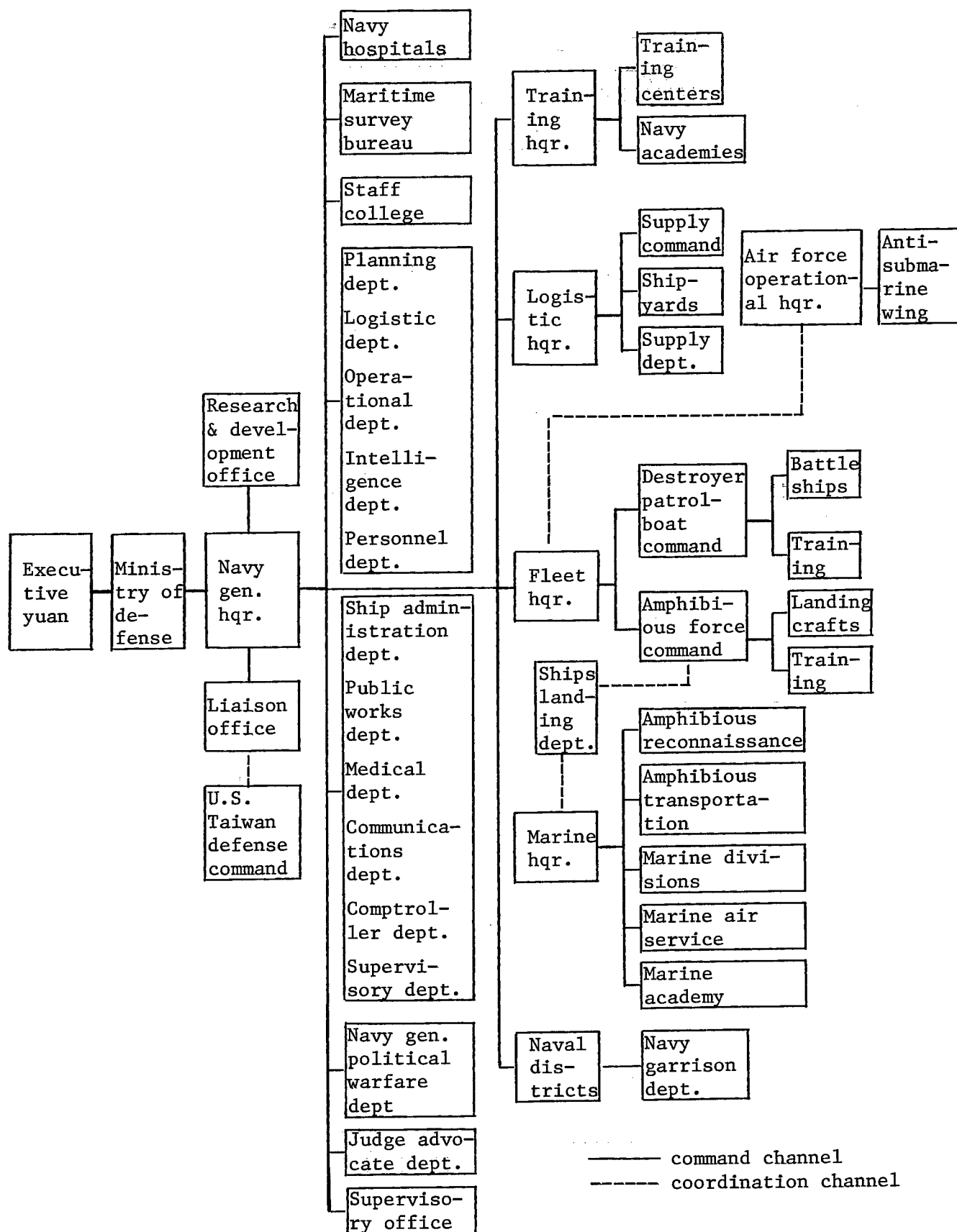
In merely 27 years, the Chinese Communist navy has developed from nothing into an all-round force. This is no mean feat. It is true that during the 1950's the Russians rendered considerable assistance and should take some credit. However, after the Russian aid stopped coming, the Chinese Communists have gone all out on their own to build their navy. Their hard work has put them where they are today--a sea power in the Far East. They make every piece of naval equipment themselves. They refine their own fuel; make their own ammunition; build, repair and maintain their own ships; develop and produce their own radar, communications systems, engines and missiles¹⁴. It is clear from Table 9 that the average age of the 1,086 ships in the Chinese Communist navy is only 14 years and that the majority of their ships are made in China. Nevertheless, such impressive statistics do not necessarily imply that the Chinese Communists have had an easy time advancing their shipbuilding technology and their naval capabilities. The Chinese Communists launched their one and only nuclear-powered "Han" class submarine, using the conventional torpedoes as its weapons, in 1972. Five years has now elapsed but they have not yet put together a nuclear-powered submarine fleet using strategic missiles as their weapons, with a range that can reach every corner of the world. This is because they have been beset with technical problems and are not expected to solve their problems in the next 3 to 5 years. The technical problems are as follows:

1. The atomic reactor used on the nuclear-powered submarine is not sound enough: the Chinese Communists built (more aptly a copying job) five atomic reactors in the late 1960's. However, those reactors are firmly planted on land. An atomic reactor used for nuclear-power submarines must be seaworthy when the submarines are cruising, pressure-proof when the submarines are diving, and shock-proof when the submarines are engaged in combat. Therefore, it is not the same as a land-based reactor. After its launching, the one and only nuclear powered submarine of the Chinese Communists was good only in developing one malfunction after another and had to undergo frequent repairs. It did not conduct its first diving test until as late as 1974. Since then, it has been in and out of the repair yard all the time.

2. The most advanced "silent submarines" are still out of their reach: Due to the superiority of today's anti-submarine weapons, only the most advanced "silent submarines"--submarines that keep their noises to themselves and thus can elude enemy acoustic weapons--can survive the cruel test of an anti-submarine offensive. Naturally the Chinese Communists are not so foolish as to build noisy nuclear-powered missile submarines at the cost of millions of dollars each to make them easy prey of the enemy.

3. The submarine-launched ballistic missiles (SLBM) are still far from becoming a reality: SLBMs with a range of over 1,000 miles cannot be propelled by liquid fuel now commonly used by Chinese Communist strategic

Table 8. Chinese Nationalist Naval Administrative System



missile units. The Chinese Communists are not expected to develop solid fuel for such missiles and reliable delivery systems in a short time. According to a prediction in the 1976 issue of the Jane's Yearbook, the Chinese Communists will not launch their first strategic nuclear-powered missile submarine having capabilities equal to those of the superpowers until the early 1980's. Even if such a submarine comes into being, it may not be much of a help in establishing the command of the sea in the Taiwan Straits.

Apart from the 22 obsolete submarines made jointly by Russians and Chinese, the Chinese Communist submarine fleet is made up of 36 "liberation" class attack submarines (copies of Russian R-class submarines). These extremely noisy submarines, each carrying eight conventional torpedoes, seem rather vulnerable to modern anti-submarine operations. This notwithstanding, the Chinese Communists are still churning them out at the rate of six each year. As a step forward toward building the advanced "silent submarines," the Chinese Communists began trial production of "Ming" class attack submarines (with a tonnage and fire power similar to "Liberation" class submarines) in 1967 and have been beset with one technical problem after another. Even today they still own two experimental models of "Ming" class submarines.

They appear to be facing similar technical problems in building up their ocean-going surface fleet--ships that can engage in combat thousands of miles away from home and support remote amphibious operations. Telltale signs can be detected from their progress in building large naval ships. Their shipbuilding program got off to a roaring start in 1962, slowed down after 1972, and ground to a complete stop after 1973. The reasons are as follows:

1. Technological problems in shipbuilding are looming large: To build small speedboats and merchant ships is one thing. To build large and fast battle ships is another matter. From 1965 to 1973, the Chinese Communists built 10 (escort) destroyers in the 1,000-ton class. Afterwards, the shipbuilding program came to a standstill due to faulty designs and manufacture (today four battleships are still sitting unfinished on shipyards' assembly lines. To make up for the slowdown in production, they renovated and remodeled 21 overaged large ships to beef up the strength of their ocean-going fleet.

2. Ship-launched missiles are not working well on large naval ships: The Chinese Communists have put missiles on half of the 10 large ships they built and on eight of the 21 overage ships they remodeled. Why didn't they put missiles on all their ships? In a previous installment of this article it was pointed out that the sway of the ship's body would affect the performance of ship's missiles. Therefore, how could the missiles work properly on ocean-going ships of faulty design that must sail in rough sea?

In order to counter-balance the ever growing Nationalist fleet of missile destroyers and to extend their coastal defense periphery by at least a thousand miles, the Chinese Communists have turned their attention away from the problem-laden large ocean-going ships to the 500-ton "Chiangnan" class patrol ships that are easier to make (they are naturally inferior to the large naval ships in speed, firepower and effective combat radius). At present, the Chinese Communists are turning out this type of ships at the rate of four a year.

Small gunboats, torpedo boats and missile speedboats make up Chinese Communist Coastal defense units. Their total number at present makes it possible to put one of them at every 5-mile interval all along the China coastline. These small craft suitable for coast guerrilla warfare form the Chinese Communists' last line of defense against possible enemy invaders from the sea. That is why the Chinese Communists are doing their best to increase the number of these craft. The production rate is as follows:

"Holo" class missile speedboats: 10 are built each year
"Hoku" class missile speedboats: 10 are built each year
"Shanghai-4" superspeed gunboats: 20 are built each year
"Huchuan" class hydrofoil speedboats: 10 are built each year

In addition, the Chinese Communists still keep a number of old gunboats and torpedo boats, the majority of which were made before 1960 by the Communists themselves. At the present rate of production, they will have over 1,000 speedboats of various descriptions in the 1980's.

Table 10 shows the number of naval ships the Chinese Communists handed out in foreign military aid in the past 10 years. The ships involved in the aid were, for the most part, small craft for coastal defense. The aid takes two forms: 1) an outright grant--involving mostly old and wornout craft which the Chinese Communists want to get rid of (like the 50 "Shantou" class superspeed gunboats which they handed over to the North Vietnamese and which were, without exception, sunk later by American bombers) and 2) sale at high price--involving more advanced speedboats (like those "Huchuan" class hydrofoil speedboats sold to Romania.) These small craft may seem all right in calm waters but will malfunction as soon as winds become strong and waves become high. Sri Lanka complained long ago that the five "Shanghai-4" type superspeed gunboats it received from Communist China in military aid were practically useless in the turbulent waters of the Indian Ocean--another proof of the defective design of Chinese-made ships. In other words, the boats covered in Table 10 are sub-standard ships or ships that in the eye of the Chinese Communists are losing their tactical value.

The number of Chinese Communist auxiliary ships has tripled in the past 20 years (see Table 2 in the 134th issue of the MING PAO Monthly). The Communists also produce their own fuel, ammunition, machinery and equipment themselves. These supplies are quickly transferred from assembly lines to the naval ships through efficient logistical units.

Table 9. Average Age and Manufacturing Country of PRC Naval Ships

	<u>Type of Ship</u>	<u>Number</u>	<u>Average age (years)</u>	<u>Manufacturing country</u>
Submarine units	HAN class nuclear-powered submarines	1	5	PRC
	G class missile submarines	1	10	PRC, USSR
	MING class attack submarines	2	8	PRC
	LIBERATION class attack submarines	36	6	PRC, USSR
	W class attack submarines	21	17	PRC, USSR
	Small coastal submarines	3	38	USSR
Ocean- going attack units	Missile destroyers	8	21	PRC, USSR
	Missile convoy ships	5	15	PRC, USSR
	CHIANGNAN class escort destroyers	5	9	PRC
	HUTUNG class destroyers	20	22	PRC, USSR
	WUSUNG class minesweepers	16	21	PRC, USSR
	HAINAN class patrol ships	15	8	PRC
Coastal defense units	HOLA class missile speedboats	60	5	PRC, USSR
	HOKU class missile speedboats	60	5	PRC, USSR
	SHANGHAI class superspeed gunboats	345	10	PRC
	HUCHUAN class hydrofoil speedboats	100	10	PRC
	SHANTOU class superspeed boats*	130	13	PRC
	HUANGPU class small gunboats	40	15	PRC
	P-4 type torpedo boats	60	29	USSR
	Miscellaneous	28	35	PRC, USA, England, Japan, Canada, Australia
Amphibious auxiliary units	Landing ships tank	15	34	USA
	YULIN class landing ships	5	4	PRC
	Landing ships medium	13	34	USA
	Landing ships infantry	15	33	USA
	General landing craft	10	32	USA, England
	Auxiliary ships	72	20	PRC, USA, USSR, Japan, Romania
Total: 1,086 ships at the average age of 14 years				

*Note: they include 80 wooden superspeed torpedo boats and 50 superspeed gunboats

The amphibious boats have always been and remain today the weakest links in the Chinese Communist navy. They were all captured from the hands of the Nationalists during the civil war period. Without replacement parts, these American-made boats are hard to keep in good repair. Furthermore, they are all overaged--any ship that has been in service for 30 years without being overhauled is regarded as being "overaged." In the past 2 or 3 years, the Chinese Communists have found it necessary to break down ships in a poorer condition in order to yield replacement parts for ships in better condition. Such a method of scrapping one ship in order to keep another ship afloat is temporarily relieving the shortage of parts and keeping some of their overaged ships from deteriorating still further. Old ships never die, they just "move more slowly and need repairs more often."

Now the shocker! The Chinese Communists began secretly building "Yulin" class landing ships medium in 1971. The news threw the Nationalists into consternation and even caused deep concern in Washington and Moscow. These new LSMs in the 1,500-ton class can carry three companies of fully equipped landing troops. Their presence is an indication of the Chinese Communists' intention to expand their amphibious fleets. As the entire Far East falls within the cruising radius of these ships, they pose a direct threat to the Chinese Nationalists and put the Asian balance of power in jeopardy.

At this very moment, the Chinese Communists are building four of these LSMs a year. However, the overaged American-made amphibious ships are expected to remain the backbone of the Chinese Communist naval amphibious units in the next 3 to 5 years.

For more than 20 years, the Chinese Communist marine corps maintained its strength at the level of 28,000 men. Suddenly in the recent 2 years, they have boosted its strength by 35 percent. In addition, they have been buying large numbers of amphibious transports (not the armored transport vehicles that can move on land and in the water) which they cannot make themselves. These are indications that they are going all out to expand their amphibious forces. Besides, half of the Chinese Communist naval reserves are marines. Once they are mobilized, the Chinese Communist marines will play a decisive role in any conflict.

During air strikes against enemy ships, the aircraft's bomb-carrying ability and maneuverability are more important than anything else. That is why the supersonic fighters are not effective for naval services. The old fashioned IL-28, F-6 and F-4 fighters that belong to the Chinese Communist naval air service are better suited to air-to-sea combat duties. Now, the intriguing question is why did the Chinese Communists take their F-9 fighters (supposedly their fastest fighters at twice the speed of sound) out of the Air Force and put them in Naval Air Service? According to the Nationalist intelligence information, the engines of the F-9's were of faulty design. As a result, the fighters would lose half its designed speed after a while. The Communists stopped making F-9's 2 years ago.

Table 10. Chinese Communist Naval Ships Given Out in Foreign Aid From 1966 to 1976
(Total Tonnage: 36,000)

	North Vietnam	Albania	North Korea	Tanzania	Pakistan	Romania	Congo	Guinea	Sri Lanka	Chad	Sierra Leone
4100-ton LST			2								
1600-ton LIBERATION attack sub				7							
155-ton SHANGHAI superspeed gunboats		8	4	15	12	10	3	4	5		2
80-ton SHANTOU superspeed gunboats		50		8							
75-ton SHANTOU superspeed torpedo b.		6		3				2			
45-ton HUCHUAN hydrofoil			32	4	6	3					
40-ton HUANGPU gunboats				4			4			4	
25-ton P-4 torpedo b.				4							
Total	66	36	30	27	18	13	7	6	5	4	2

Then they began to purchase high-speed engines from overseas. Now they have relegated the F-9's to naval duties. All these developments support the Nationalist intelligence reports. The fact that the Chinese Communists are unable to make good ships and aircraft on their own is ample proof that in this age of rapid scientific and technical advances it is not necessarily a convenient and economical shortcut to shut oneself up and to do everything oneself.

An Appraisal of the Chinese Nationalist Naval Equipment

Two things that are immediately noticed about the Nationalist navy is that the Nationalists rarely build naval ships of their own and that they are overly dependent on U.S. aid.

The only commendable achievement of the Nationalist navy is its ability to maintain its ships. Ever since their evacuation to Taiwan, the Nationalists have looked upon their amphibious forces (including marines) as the ace of their assault troops and have given top priorities to equipping them and keeping them in good shape. Moreover, the need to supply the troops stationed on 109 islands outside of Taiwan also makes it necessary for the Nationalists to keep their amphibious fleets and amphibious forces strong. Unfortunately, all the U.S.-made amphibious ships in the Nationalist naval service are of World War II vintage. They are overaged, worn out, and no longer efficient. There is no way the Nationalists can get modern landing ships from overseas, build their own, or even receive replacement parts from the United States (the United States stopped making them after the war). Caught in such a dilemma, the Nationalists embarked on the "Modernizing Chung" and "Modernizing Mei" Programs in 1967. Under such programs, the 24 LSTs in the "Chung" series and the dozen or so LSMs in the "Mei" series were sent to the Naval Shipyard in Kaohsiung by turn, each ship to stay at the shipyard for a year, during which it was overhauled from top to bottom, with new motors, new weapons, new communications equipment, new facilities, and new ship's hull put in. Thus "rejuvenated," the relaunched landing ship was to achieve greater speed, greater fuel economy, greater firepower, and greater efficiency. In short, they are as good as new. The "Modernizing Chung" Program gave the Nationalists 24 completely renewed landing ships tank and the "Modernizing Mei" Program made available another four rebuilt landing ships medium. The star of the 8-year renewal program was the "Synchrco Lift Dock," the largest of its kind in the world, of the Kaohsiung Naval Shipyard. It can lift simultaneously several ships of 4,000 tons or less not under load out of the water and into the shipyard. Because of this lift dock, the Nationalist navy is believed to have the largest and best ship maintenance and ship repair facilities in east Asia¹⁵.

Besides, what can be regarded as Nationalist-made are the scores of 30-ton superspeed patrol boats. Most of them are assigned to garrison and coastal defense duties. The few that remain with the Nationalist navy are used only in training for anti-speedboat combat. All the other ships in the

Nationalist navy have either been obtained through U.S. aid or been purchased from overseas. Their average age and their countries of origin are shown in Table 11.

The 18 "Yang" class destroyers which the Nationalists bought from the United States were American destroyers launched between 1943 and 1947. Under the U.S. "Fleet Rearmament and Modernization" Program of the mid-1960's, each of these destroyers underwent an 8-month overhaul, during which it received 8 million dollars worth of new weapon and communications systems, new engines, and a new keel. In the years from 1969 and 1974, these destroyers were sold, one after another, to the Nationalists. Of these ships, Destroyer "Tanyang" and seven of her sister ships have special platforms for helicopters to take off and land as well as hangars. They will come in handy if the Nationalists decide to add one more dimension to their navy by increasing their ship-based airplanes at some point in the future. Destroyer "Liaoyang" and three other sister ships are armed with anti-submarine missiles. Destroyer "Hsiangyang" and four others are armed with sea-to-sea missiles. As to sea-to-air missiles, plans are afoot to install them on all the 18 Nationalist destroyers. The coming months will see these destroyers completely equipped with sea-to-air, sea-to-sea, and anti-submarine missiles through direct or indirect U.S. aid. These ships form the main force of the Nationalist surface fleets.

The Nationalists also own 16 minesweepers made in the United States during the early years of the Vietnam War. These minesweepers, naturally, will be central figures in any minesweeping operation. The Nationalists also own nine Japanese-made and American-made superspeed torpedo boats. They are now patrolling the waters around Penghu islands. Besides, there are some "senile" naval ships, including 10 escort destroyers and three patrol boats. They are candidates for the mothballs unless they are to be rebuilt and armed with missiles in the near future.

The Chinese Nationalist submarine fleet consists of two ocean-going attack submarines and three spy submarines. The former were purchased from the United States in 1973 for use in anti-submarine combat training for the naval aviators. The latter, "mini-submarines" that require only an 8-man crew and displace 70 tons, were purchased from Italy in 1969 for special combat assignments. The small submarines will not play any decisive role in the contention for command of the sea.

In the past 10 years, the Chinese Nationalists have pressed on with their program of retiring old ships and acquiring new ships in order to keep their fleets in top shape. Table 12 shows the ships' turnover. Generally speaking, the Nationalists retire nine ships and acquire the same number of new ships each year. The figure represents 10 percent of the total number of ships in the Nationalist navy. It is a big turnover. Under such a vigorous renewal program, the "Yung" class and the "Chiang" class patrol boats, once the pride of the Nationalist navy, are all gone by now.

Table 11. Average Age and Countries of Origin of Nationalist Naval Ships

	<u>Types of Ships</u>	<u>Quantity</u>	<u>Average Age (years)</u>	<u>Countries of Origin</u>
Combat Units	Missile destroyers	9	12*	U.S.A.
	Ordinary destroyers	9	12*	U.S.A.
	Escort destroyers	10	33	U.S.A.
	Patrol ships	3	33	U.S.A.
	Minesweepers	16	19	U.S.A.
	Torpedo boats	9	14	U.S.A., Japan
	Speedboats	11	3	Nationalists
	Submarines	5	13	U.S.A., Italy
Auxiliary Units	Landing ships dock	2	32	U.S.A.
	Landing ships tank	23	8*	U.S.A., Nationalists
	Landing ships medium	4	6*	U.S.A., Nationalists
	Landing ships general	22	30	U.S.A., Japan
	Auxiliary ships	18	28	U.S.A., Japan
Total 141 ships, at average age of 18.5 years				

*Note: They have been remodeled

In addition to the ships now in active service, there are a number of ships in the Navy reserve. In case of total mobilization, they can be quickly refitted for naval duties. They include:

one destroyer	one repair ship
three escort destroyers	one tug
five patrol ships	one oiler
20 speedboats	two transport ships

At present, these 30 or so ships are either on loan to other arms of the armed forces or being mothballed for use in time of total mobilization. They should be counted as part of the Nationalist navy in case of war over the Taiwan Straits.

Judging by the pace of development of shipbuilding and related heavy industries in Taiwan, the Nationalists should have no difficulty churning out naval ships in large numbers. Why have they not done so yet? The problem is not with shipbuilding technology. It is with how to make sophisticated weapon and communications systems. At present, the Nationalists still cannot mass-produce an integrated system composed of search radar, data-processing computer, and fully automated ship's battery and missiles. Therefore, even if the Nationalists could build the bodies for a hundred destroyers a year, they would be of no use if there were no sophisticated weapons and communications equipment to go with them. Nevertheless, the Nationalists are sparing no effort in developing their ability to make naval ships on their own.

The Second and Third Institutes of the Dr Sun Yat-sen Academy of Sciences are successfully working on ship-launched missiles. The Nationalist navy is designing and building its first superspeed battleship. The first Nationalist-built modern battleship is expected to make its debut in the 1980's. The Nationalist navy is already making most of its fuel, ammunition, ship's spare parts, and instruments. It also keeps a large inventory of the few items which it cannot make for the eventuality of war. The computer-controlled naval logistical apparatus is sending supplies directly to all destinations and is indirectly contributing to the usage rate of the naval ships. The Nationalists' close concern for naval logistics is evident from the fact that the "Logistical Headquarters" is equal to the all-important "fleet headquarters" in status as units of the first echelon right under the Navy General Headquarters (see Table 8).

The Nationalist marines, who boast of "being ready for combat every minute of the hour," are well known for their gallantry. Counting the marine reserves, the Nationalists have a total of 60,000 (four marine divisions) marines under arms. In the last 2 years, the marines have been modernizing their equipment and have acquired several hundred LVTA-5 amphibious tanks and LVTP-5 amphibious transport vehicles, the best of their kinds. In addition, they also have in their service a large number of Nationalist-made UH-1H helicopters. Predictably, the Nationalist amphibious operations in the future will be more like "three-dimensional" operations.

The usage of a naval ship is about the same for both the Chinese Communists and Nationalists. Let us use the Nationalist navy for an example. The ships are on a rotation of duties. During the first third of the rotational cycle, a ship returns to the naval shipyard for periodic maintenance and repairs. During the second third of the cycle, the ship goes on training and exercises, while at the same time is on standby for combat duties. During the last third, the ship goes on patrol duties. After that, the cycle begins again. It is easy to see from this example that in time of peace the usage rate is 67 percent (or two-thirds) for any ship. In time of war, such usage rate may be boosted to 85 percent for newer ships. At present, the Communists have a large number of ships in active service but none in reserve. For the Nationalists, it is the other way around. Nevertheless, both sides are hoping to increase the usage rate of their naval ships.

Morale and Leadership

Morale and leadership are two main pillars of the intangible capabilities of any military force. The various systems adopted by the Chinese Communist and Nationalist navies are the best mirror of their morale and leadership qualities.

There is a jungle of systems within the Chinese Communist navy. Only the personnel system and the political commissar system have a direct bearing on morale and deserve a closer look here. Before 1955, the Chinese Communist navy was too young to have much of any system. On 11 February 1955,

Table 12. Turnover of Nationalist Naval Ships

Year	<u>Retired ships</u>		<u>Newly acquired ships</u>	
	<u>Battle ships</u>	<u>Auxiliary ships</u>	<u>Battle ships</u>	<u>Auxiliary ships</u>
1966	2	0	7	1
1967	0	1	3	0
1968	3	0	5	0
1969	6	3	13	2
1970	8	4	2	2
1971	1	8	5	3
1972	20	8	4	4
1973	13	7	9	1
1974	0	3	6	3
1975	4	2	2	0
1976	1	6	3	1
Total	58	42	59	17

Note: Retired ships include all those taken off active duties, scrapped, sold, mothballed, or handed over to the Customs offices and research institutes.

Newly acquired ships include all those made by the Nationalists themselves, purchased from overseas (Japan, Italy, United States), and received in U.S. Aid.

the State Council made public the regulations governing military service. The regulations followed the Soviet system of military ranks and divided the naval rank and file into five classes and 18 grades, from admirals through captains, lieutenants, petty officers down to seamen. Thereafter, a complete system regarding ranks, uniforms, conditions of service, promotion and discharge, discipline, and pension gradually took shape. On 30 July 1955, the Statute on Military Service was promulgated, requiring all men 18 years or older to serve. In time of peace, the length of service is 4 years with land-based naval units and 5 years onboard naval ships. In time of war, the length of service will be prolonged. Naval reserves are to report for combat duties immediately if war breaks out. Coinciding with the promulgation of the new statute on military service was the change from a system paying the serviceman in kind to a system of paying him a salary. In January 1965, the Communists further extended the length of military service by 1 year. On 1 June 1965, the Chinese Communist Party Central Committee adopted a resolution of the Ninth National People's Congress to abolish all military ranks and titles and to do away with all insignia and emblems as a means of boosting morale and promoting unity. This system has remained unchanged to this day because of favorable response.

The system of political commissars is most important for the Chinese Communist navy. It is through such a system that the Chinese Communist Party exercises its absolute control over the armed forces. The Chinese Communist navy, understandably, is also a product of the philosophy that "the

party must control the armed forces and political objectives override military objectives." Generally speaking, the Chinese Communist naval officers and men are at a low educational level but have a high political awareness. Their training is low on military skills but high on political indoctrination. The hallmarks of the political commissar system in the Chinese Communist navy are "large organization, rigid control, separation of political authority from military authority, and involvement of every officer and man in political activity."

The Chinese Nationalist naval officers and men, on an average, are of a higher caliber than their Communist counterparts. The career officers are all well trained in naval sciences and technology. Reserve officers who serve for 2 years are all college graduates. The seamen, who serve 3 years, are all high school graduates. There are also political departments in the Nationalist navy. However, the rank and file have far less political awareness than their Communist counterparts.

Generally speaking, morale is high in both the Communist and Nationalist navies. The performance of their men in the various sea engagements is good proof of such high morale. Defections are rare. Since 1950, only one incident involving "defection" has occurred for each side:

1. At 3 a.m. on 9 January 1966, a landing craft machine (LCM-119) of the Chinese Communist navy sailed from Communist China toward Nankan Island in the Matsu group under the Nationalist control. Seven seamen of Fukien Province with defection on their minds put up a fight with three Communist cadres on the craft. Only three seamen survived the fight and steered their craft to Nankan Island. Later on, when the three defectors were flying to Taipei aboard a hydroplane, they ran into an ambush of Chinese Communist MIG fighters and were killed. It was a tragic ending.

2. In the early morning of 20 March 1974, a Nationalist naval officer left his station on Wuchiu Island for Communist-controlled Nanjih Island in a rubber speedboat. His name was Wu Miao-huo, a lieutenant and platoon leader of an amphibious reconnaissance battalion of the Second Marine Division, also a graduate of the Nationalist Navy Academy. He defected because he could not get along with his superior officers.¹⁶

These two incidents are merely freakish occurrences and do not reflect any internal problems that may exist within the Communist or Nationalist navies. If these incidents are irrelevant, the background of the top commanding officers of the two navies may offer some clues to their character and potential problems:

Hsiao Chin-kuang--presently the commander of the Chinese Communist navy. Born in 1904, a native of Changsha city in Hunan Province, graduated from Dr Sun Yat-sen University in Moscow in 1924, graduated from Soviet Red Army University and University of Political Science in 1930. He has served as commander and chief of staff at various levels, and has headed a number of special districts and military districts. He saw action in

the Northward Expedition, Long March to Yen-an, War of Resistance Against Japan, and the civil war between the Communists and the Nationalists. He was the first commander of the Chinese Communist navy when it was founded in 1950 and has held that position ever since. He became an admiral in 1955. He retained his position when military titles were abolished in 1965. His wife is Russian.¹⁷

Chou Chien--presently commander-in-chief of the Chinese Nationalist navy. Born in 1921, a native of Chienou County in Fukien Province. Graduated from the Chinese Nationalist Navy Academy in 1940. Graduated from the senior class of the British Royal Navy School. He saw action in the civil war and in various battles in the Taiwan Straits. He has commanded a number of ships. He has served as navy attache to Washington, commandant of the Navy Technical School, commander of the destroyer fleet, commander of the patrolboat fleet, commander of fleet headquarters, commander of the 62 Detachment, and deputy commander-in-chief of the navy. In July 1976, he was promoted to admiral and appointed the commander-in-chief of the navy, the eighth commander-in-chief since V-J day.¹⁸

Conclusion on the Chinese Communist and Nationalist Naval Capabilities

In terms of manpower, number of submarines and number of naval aircraft, the Chinese Communist navy ranks the third in the world. In terms of capabilities, it is probably a match for some advanced countries (such as Japan's navy for self-defense and Italy's navy) but is no rival for such sea powers as the United States, the Soviet Union, Great Britain, and France. For example, it would take only one American attack fleet headed by an aircraft carrier--with its nuclear-powered engines, heavy armor, high speed, ship-carried supersonic fighters, electronic-controlled missiles, including sea-to-sea, sea-to-land, sea-to-air, and anti-submarine missiles--to annihilate the entire fleet of the Chinese Communist navy. The Chinese Communists still have a long way to go to become a superpower of the sea. Nevertheless, there is no question that the Chinese Communists are now a stronger sea power than the Nationalists.

The following factors, nonetheless, are evening the scores for the Chinese Communist and Nationalist navies:

1. The Communists have a long coastline and face quite a number of potential enemies. They are spread thin.
2. The Nationalists have no quarrels with other nations and can concentrate on defending the Taiwan Straits.
3. As far as ship's weapon system is concerned, the Communists hold numerical superiority while the Nationalists hold qualitative superiority.
4. The Communists lead in shipbuilding capacities while the Nationalists lead in ship maintenance and repairing capacities.

5. All the Communist ships are in active service while the Nationalists have some ships in reserves.

A subsequent installment of this article to be published in the next issue of the same magazine will deal with the question of just how evenly matched the two adversary navies are.

FOOTNOTES

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